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# TechLife NEWS

## IT'S NOT FOR EVERYONE

5 THINGS TO KNOW ABOUT APPLE'S NEW IPAD PRO

## APPLE PAY

EXPANDS AS IT VIES FOR BROADER ACCEPTANCE

# DEVICES & APPS

HOW TECHNOLOGY CAN LEAD THE FIGHTBACK

# Pure Design

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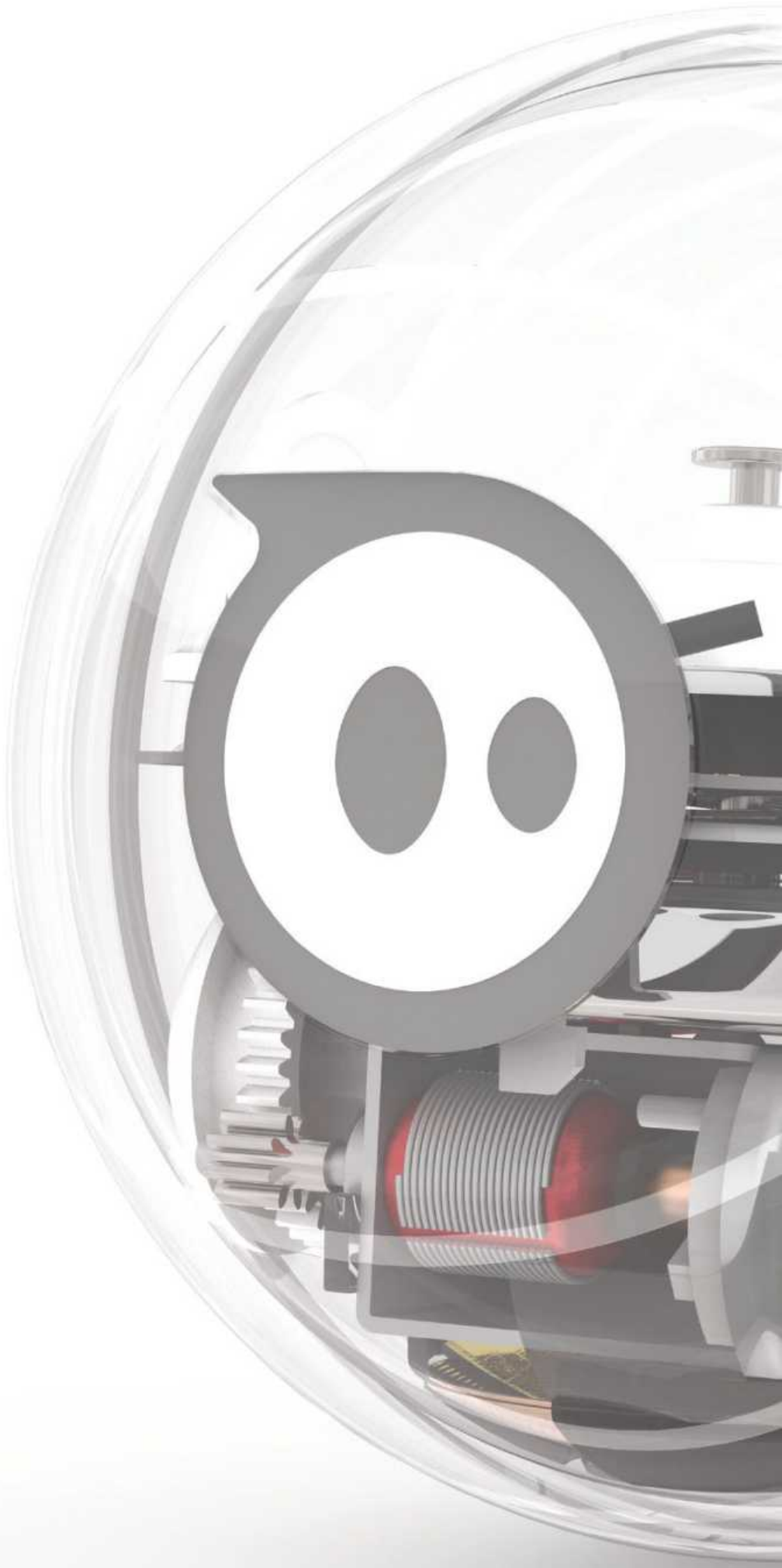
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# SPRK

schools ϟ parents ϟ robots ϟ kids

## EDITION

Meet the robot designed to inspire tomorrow's inventors and innovators. Kids and kids at heart can discover robotics, learn how to program, create accessories, dream up new ways to play, and explore the library of free apps. Fire up your imagination and change the way you think about play.



30m RANGE

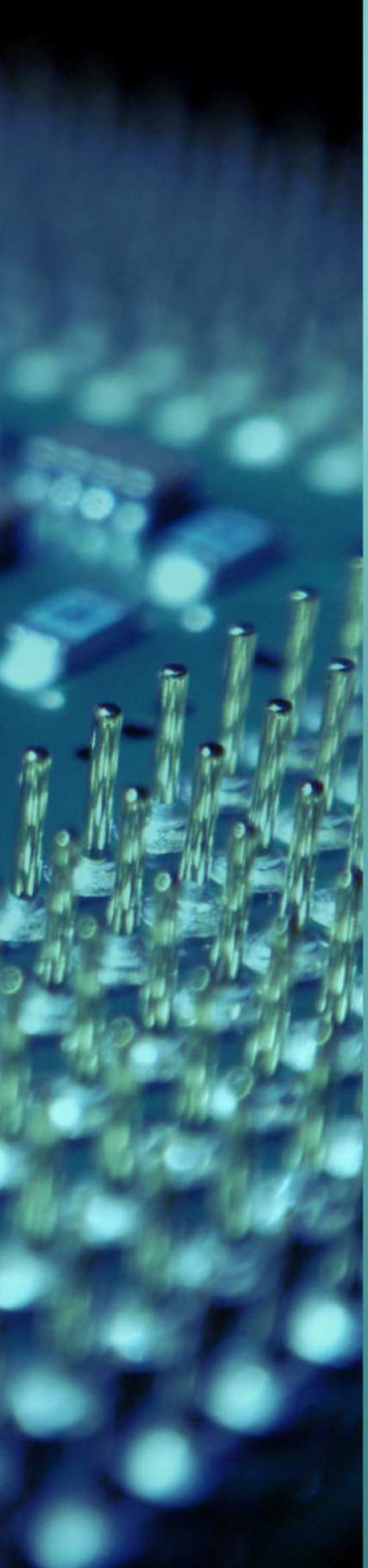
BLUETOOTH

</> PROGRAMMABLE

APP-ENABLED

60 min BATTERY LIFE

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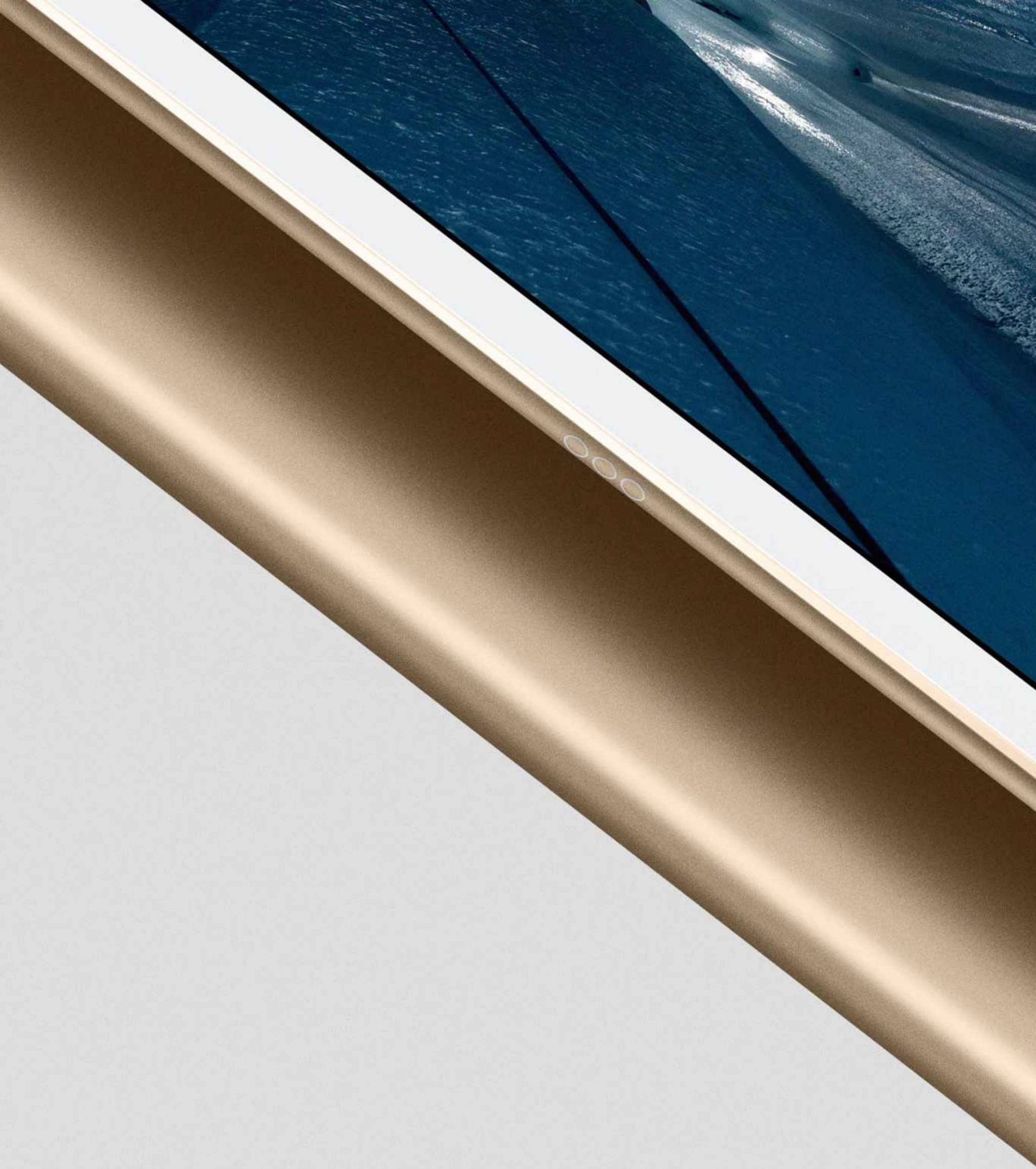
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5
THINGS
TO KNOW
ABOUT
APPLE'S NEW
iPAD PRO

The first thing you need to know about Apple's iPad Pro is that it's, well, giant.

About an inch longer than a standard sheet of paper, the Pro features a 12.9-inch diagonal display, giving it 78 percent more surface area than the 9.7-inch iPad Air 2. At nearly 1.6 pounds, the Pro is heavier than current models, but not much more so than the original iPad from 2010. There's room for four speakers, compared with two on other iPads.

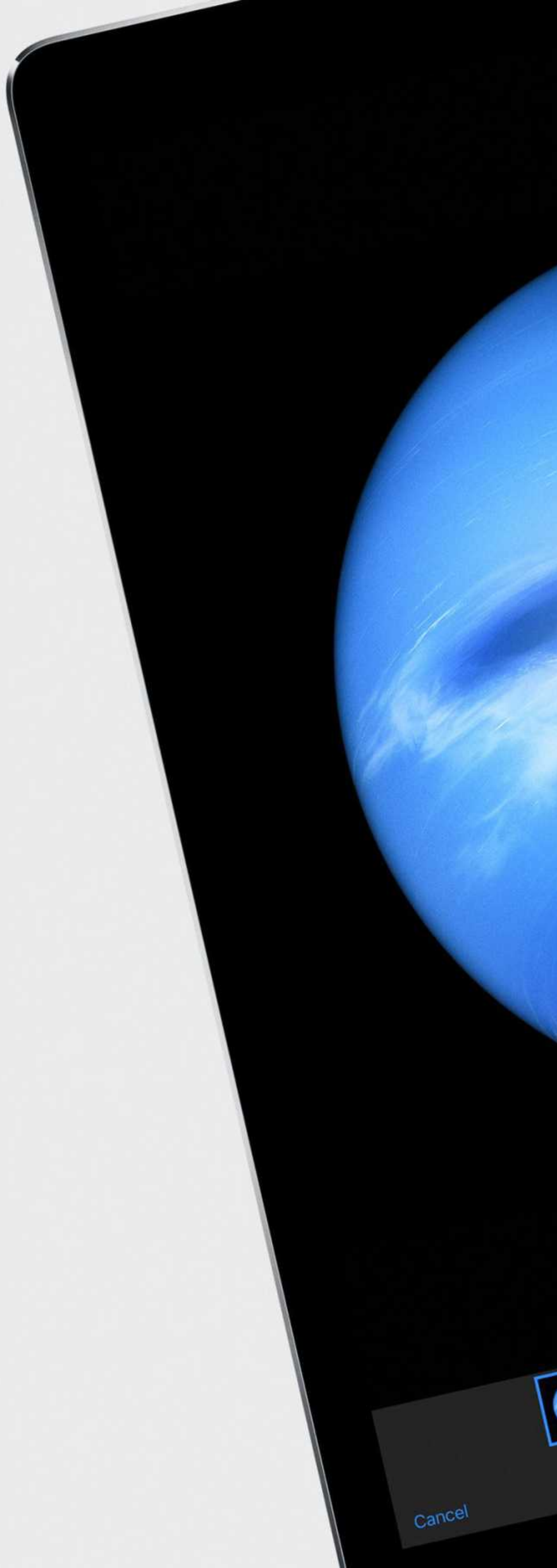
The price is supersized, too. The iPad Pro starts at $799, compared with $499 for the standard-size iPad Air 2 and $269 for the cheapest iPad, the 2-year-old iPad Mini 2. A physical keyboard from Apple costs $169 extra, and the Apple Pencil sells for $99.

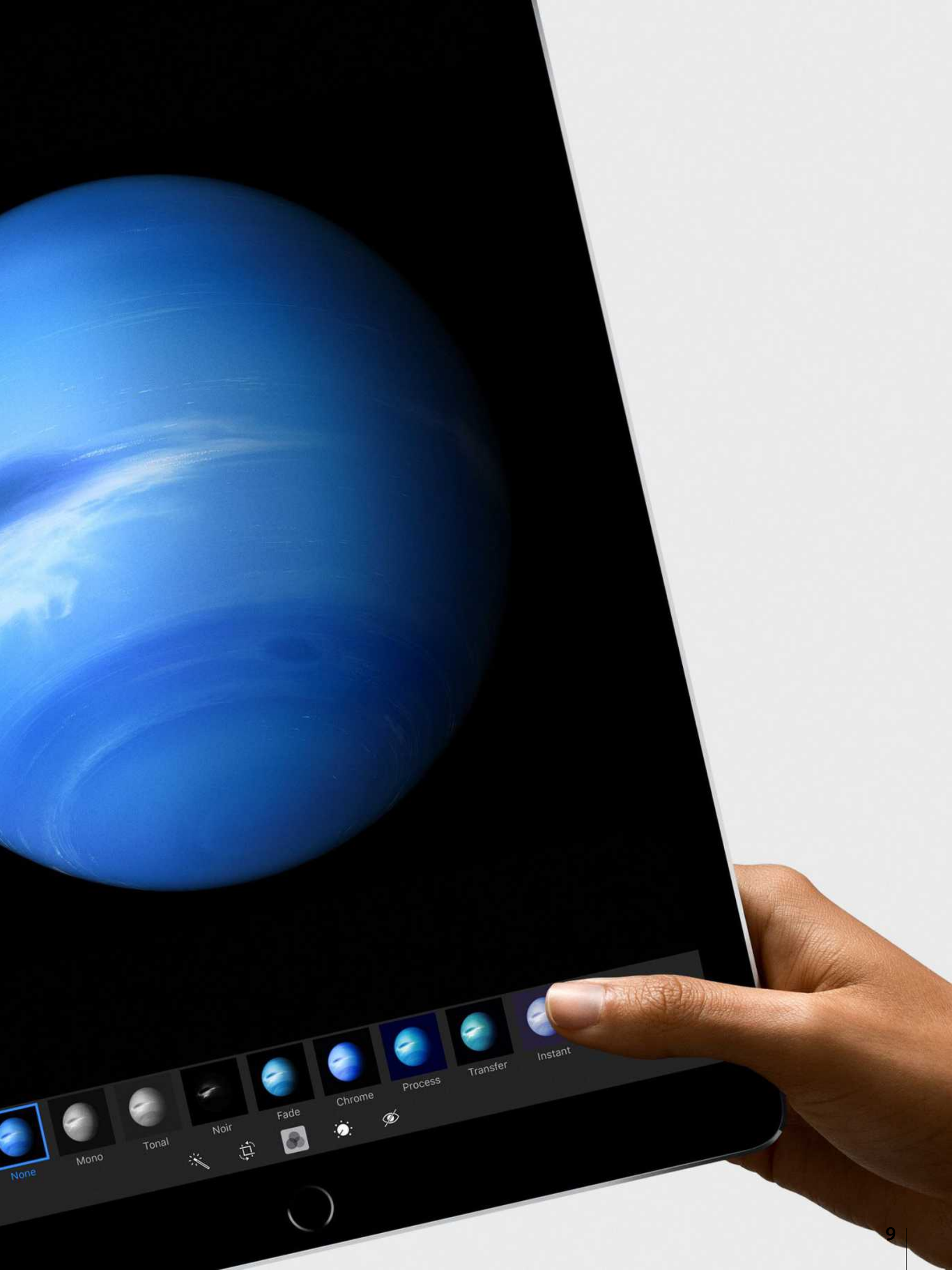
Designed with professionals in mind, the Pro is Apple's way of reaching new consumers as sales of iPads - and tablets in general - decline. Here are some things to know as the Pro starts appearing in stores this week:

## THE PRO ISN'T FOR EVERYONE

Many people will be fine with the standard iPad Air, while others will prefer the portability of the smaller iPad Mini.

The Pro is for those who need the larger screen, including people who write, build spreadsheets or edit graphics and video rather than primarily reading or playing games. These are people who might otherwise be lugging around a laptop. If you're using a tablet just to watch Netflix, the Pro might be overkill, though movies and TV shows look and sound nicer.



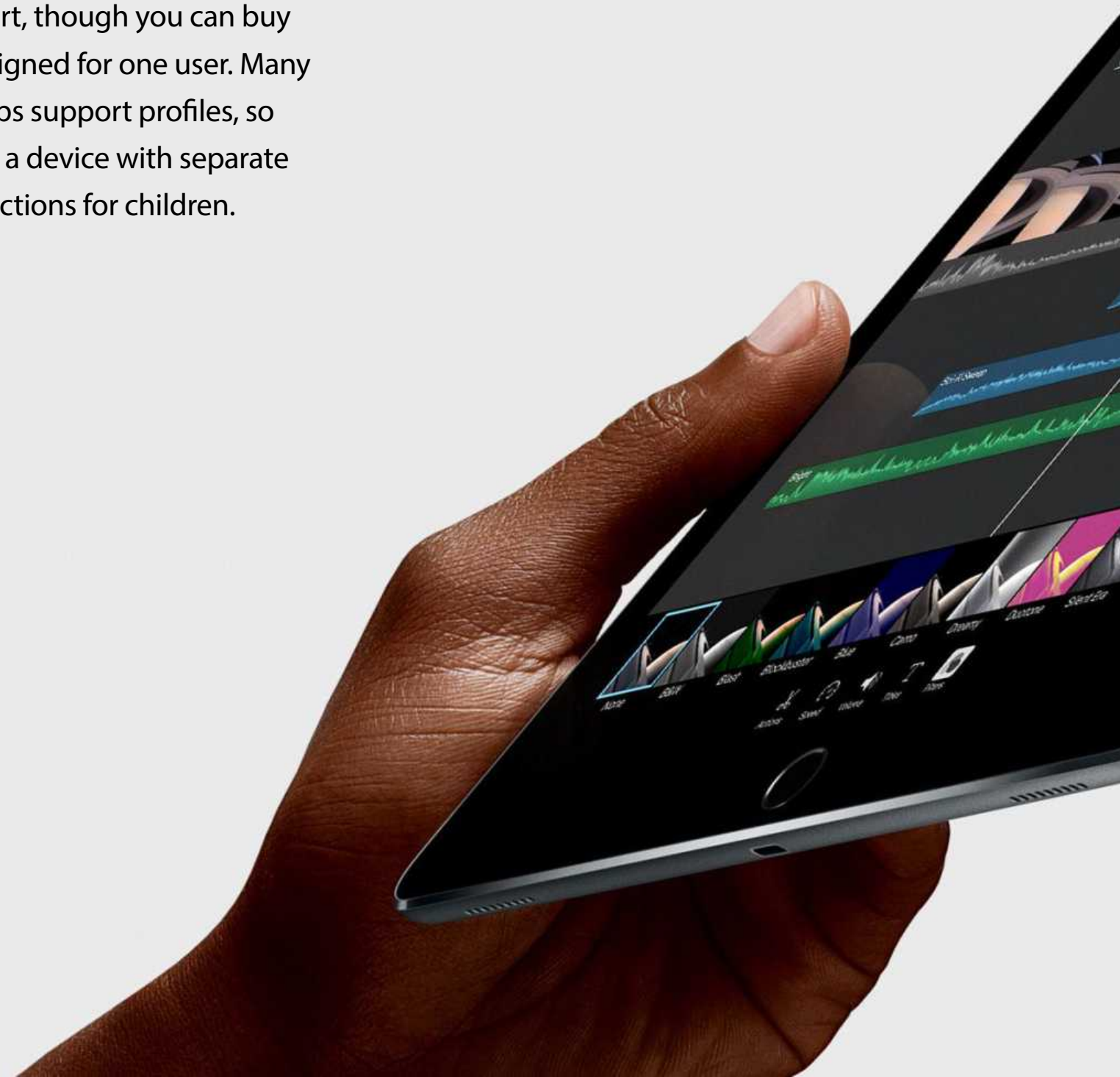

None
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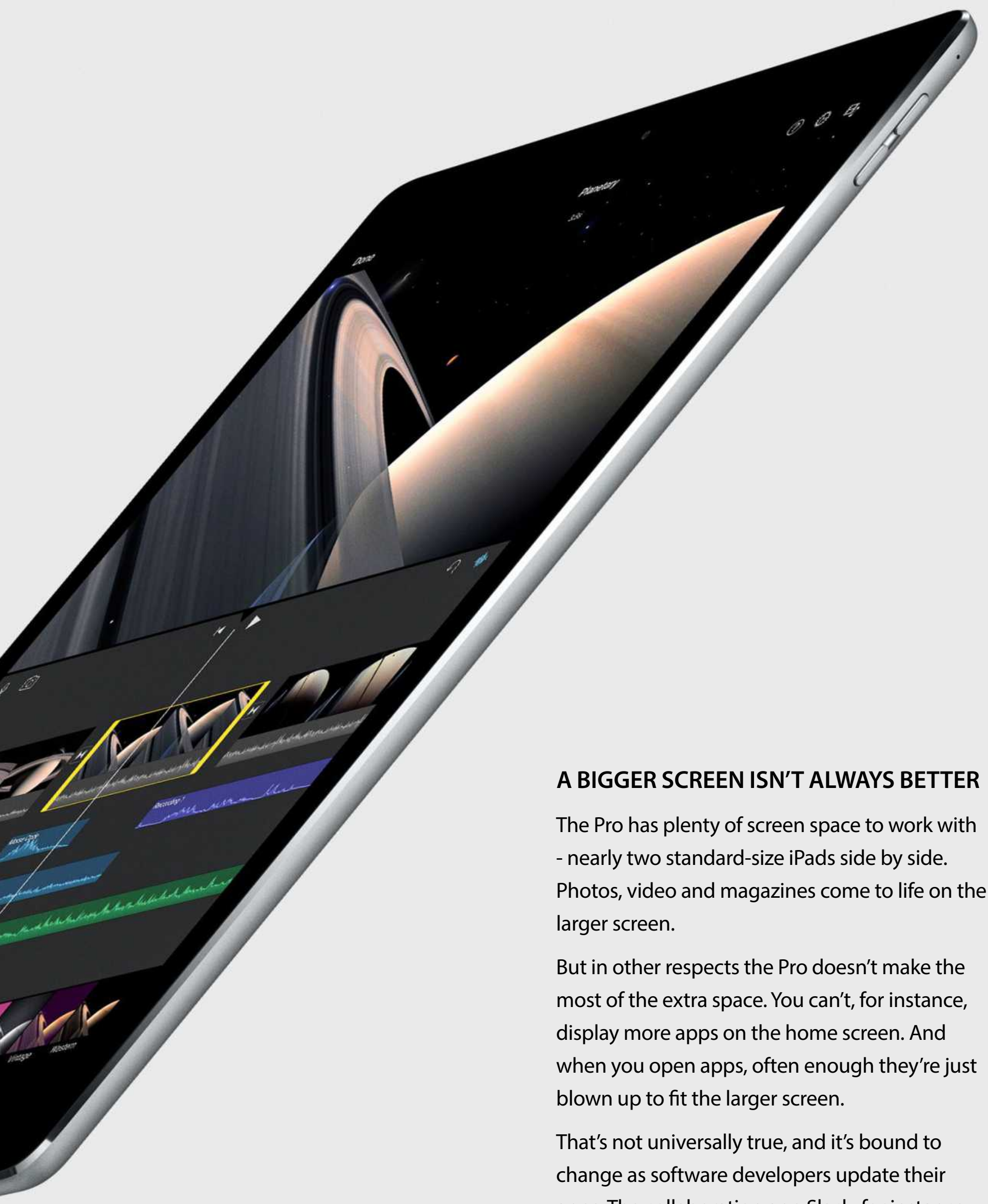
## IT'S NOT A LAPTOP

For writing, the Pro features Microsoft Word and Apple's Pages. But do you need a tablet for that? The desktop version of both apps can do far more, including keeping multiple documents open at once. The Pro is more for those times you want to leave the laptop behind, but might still need to write an email or touch up a report. The physical keyboard makes all that faster.

Where the Pro has the potential to excel is with artistic apps. Doodling, sketching and painting work better with fingers and a stylus than with a keyboard and trackpad. But apps on tablets have streamlined features designed to let you complete specific tasks quickly. More advanced features require a PC.

The iPad lacks a USB port, though you can buy an adapter. And it's designed for one user. Many other tablets and laptops support profiles, so many people can share a device with separate settings and even restrictions for children.





## A BIGGER SCREEN ISN'T ALWAYS BETTER

The Pro has plenty of screen space to work with - nearly two standard-size iPads side by side. Photos, video and magazines come to life on the larger screen.

But in other respects the Pro doesn't make the most of the extra space. You can't, for instance, display more apps on the home screen. And when you open apps, often enough they're just blown up to fit the larger screen.

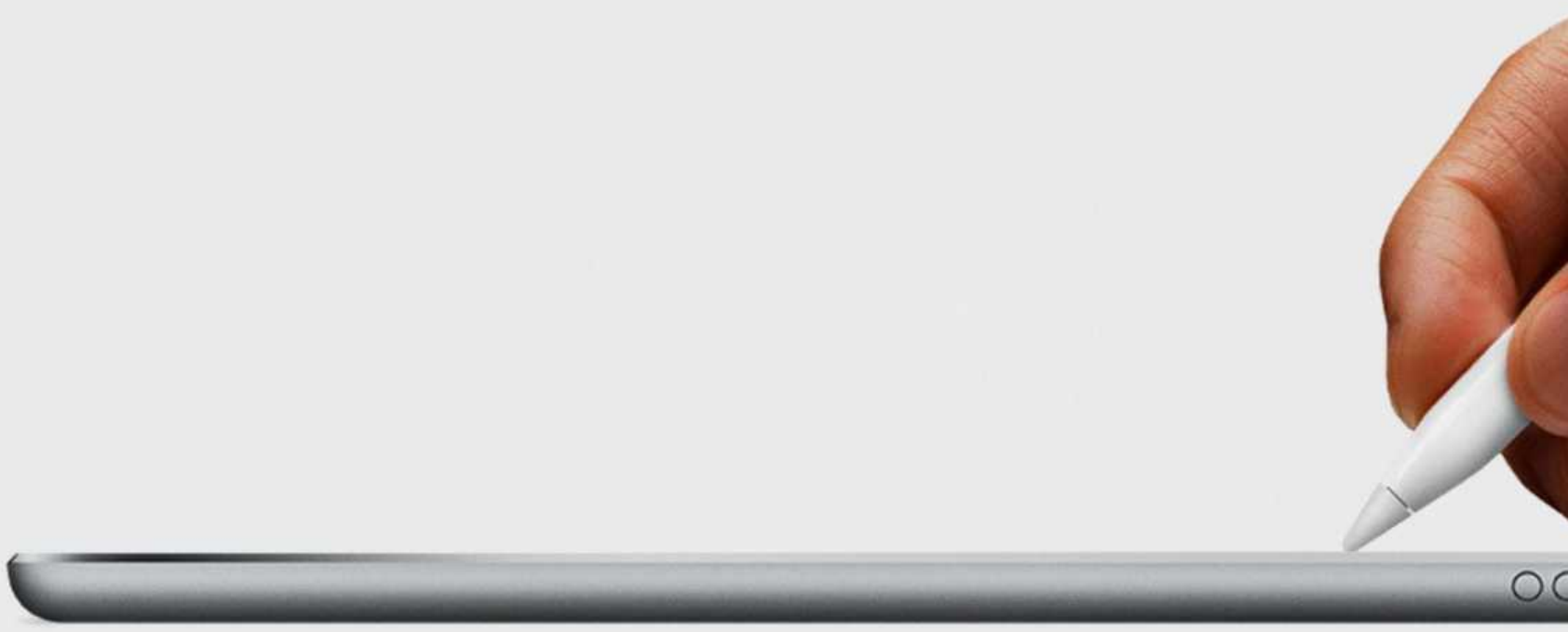
That's not universally true, and it's bound to change as software developers update their apps. The collaboration app Slack, for instance, creates a new column with menu options on the Pro. But for now such apps are more the exception than the rule.

## GET THE KEYBOARD AND STYLUS

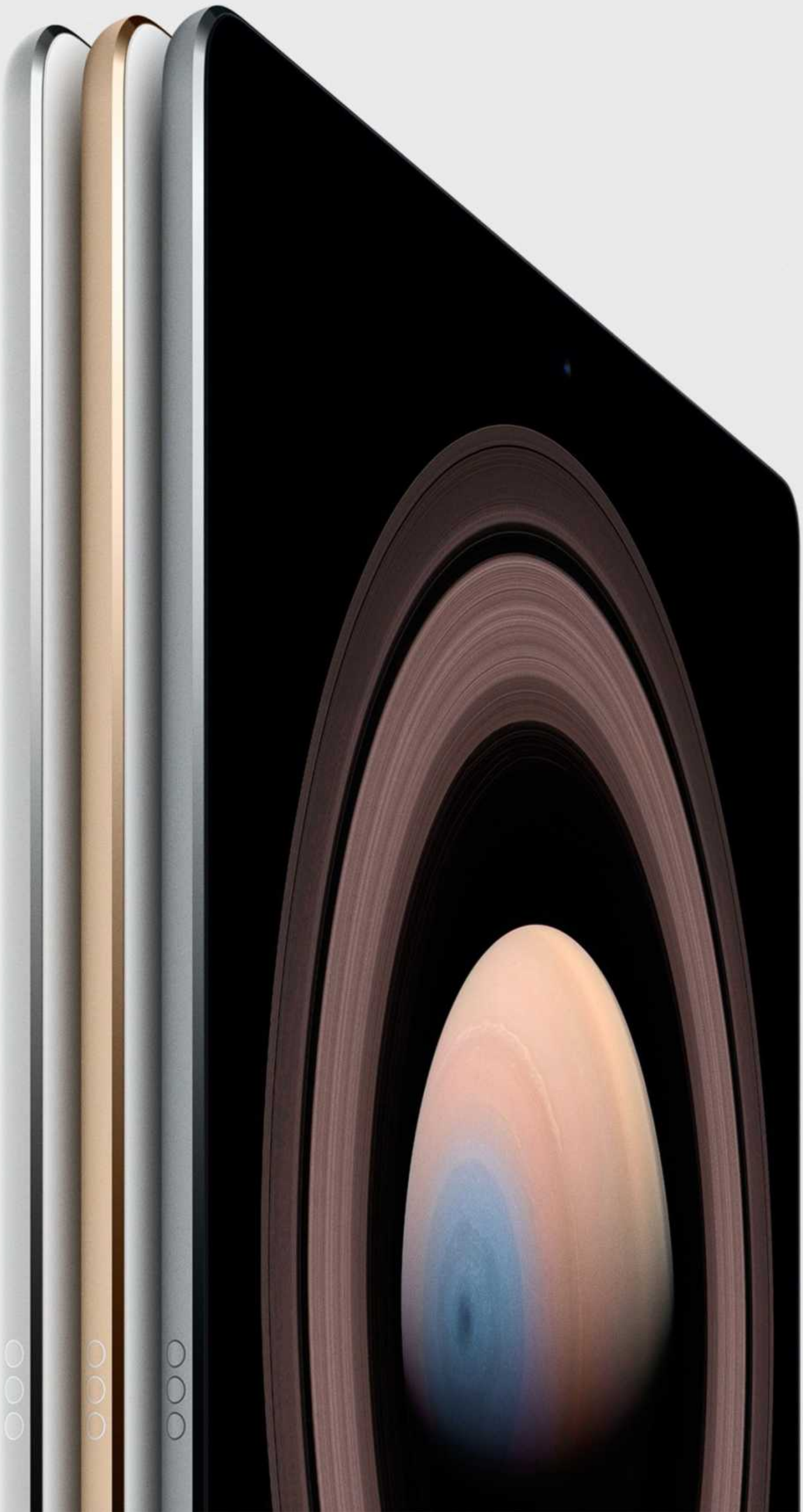
Although they'll push up the cost, you'll want to buy the Apple Pencil and a physical keyboard. Many of the Pro's unique characteristics require one or both. Otherwise, you're effectively buying a crippled device that's capable of so much more with the right tools.

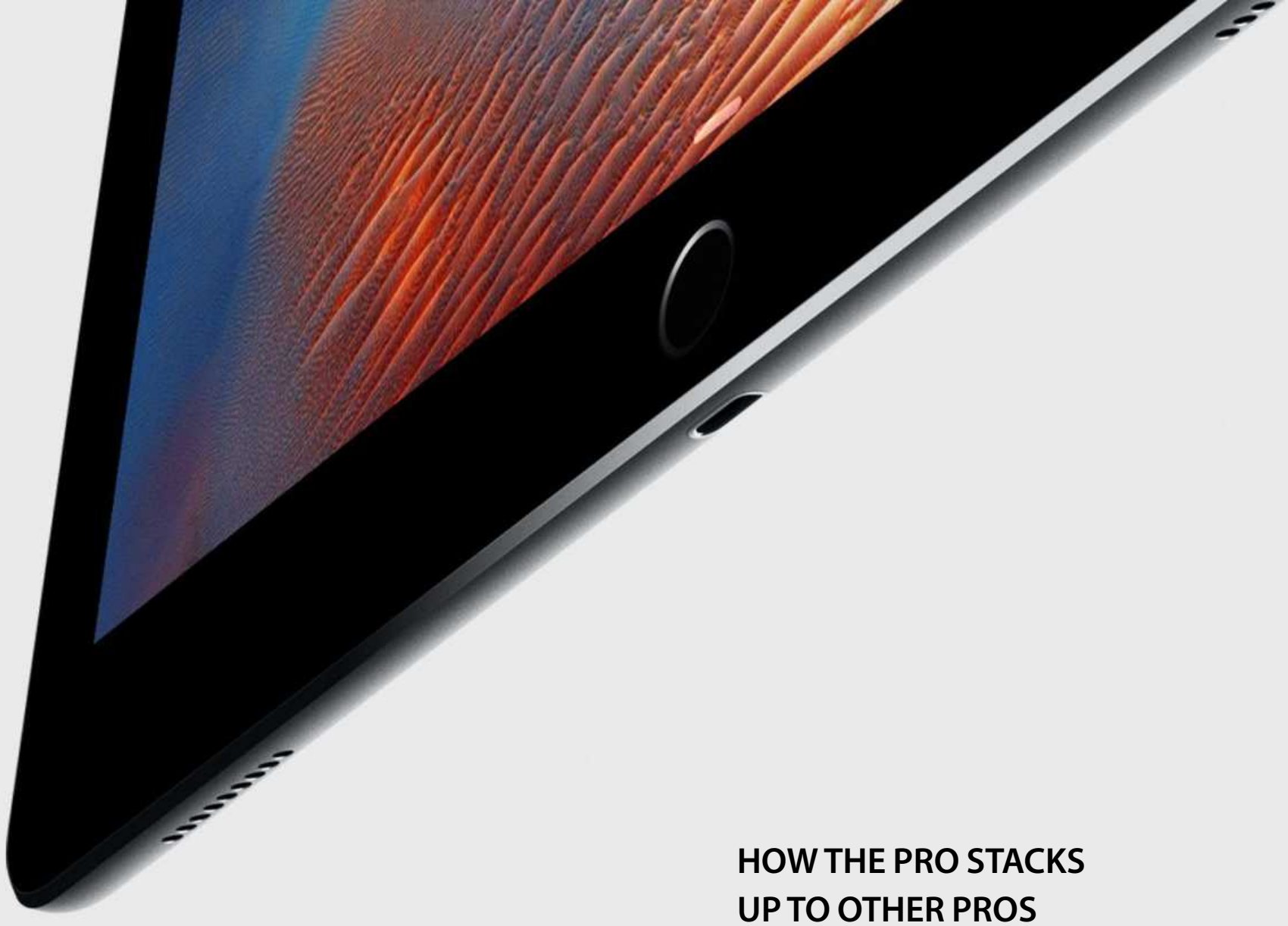
Apple's Smart Keyboard serves as both a cover when stowing the iPad and a kickstand when using it, though you can't adjust the angle. Typing is much easier with a real keyboard, and having it restores many shortcuts common on Macs, such as command-C for copy. The keys don't feel as natural as they do on a laptop, but that could simply take more than a few hours of testing to get used to. One nice touch: The keys are completely sealed, in case you spill a drink on it.

The stylus, meanwhile, resembles a digital pencil that, for instance, can do shading when held at an angle. (Most draw only with the tip.) One neat trick: Hold two fingers on the Notes app to unveil a ruler, and use the pencil to draw a straight line.









## HOW THE PRO STACKS UP TO OTHER PROS

Microsoft's Surface Pro comes closer to being a laptop replacement, particularly with a new keyboard cover that's studier and feels more natural on the lap. It runs standard Windows 10 apps and displays many windows at once, not just two. On the other hand, not all of those apps are designed with touch controls in mind, something that's fundamental to tablets.

Another alternative is Apple's "new" MacBook laptop - the minimalist model released in March, without Air or Pro in the name. It doesn't have a detachable keyboard, but the overall unit is light and thin, more like a tablet than a laptop.

Generally speaking, the Pro is designed primarily to extend the iPad's touch-optimized experience to office use; as part of that compromise, it just can't do everything a Mac can. So you can be disappointed and consider it a laptop-wannabe - or you can look on the bright side and think of the Pro as a giant iPad with benefits.

# REVIEW: GAME OVER IN THE DREARY 'MOCKINGJAY PART 2'

“The Hunger Games” movies have unfolded in a relative blitzkrieg - four movies in four years - and in a fan-fueled fever that has masked some seriously silly political allegory with the thrill of survival games and the awesome star power of Jennifer Lawrence. In the final installation, “The Hunger Games: Mockingjay Part 2,” the game is over.

Having left behind the “arena” - a wooded realm where teenagers from across the districts of the totalitarian Panem are set against each other in a televised kill-or-be-killed death match - at the conclusion of 2013’s “Catching Fire,” “Mockingjay” moves into a greater war, where Katniss Everdeen (Jennifer Lawrence), the reluctant participant plucked out of the mining region of District 12, discovers a wider network of like-minded rebels.

In part two, the march toward the Capitol takes on an air of inevitable victory as the revolution, led by President Alma Coin (Julianne Moore), contemplates power after the expected fall of the dictator Coriolanus Snow (Donald Sutherland). Wary of replacing one corruption with another, an increasingly grave Katniss discovers the truth of that old maxim: revolution is easy; democracy is difficult; and stretching the thin conceits of “The Hunger Games” into four films is even harder.

The pop pleasures of the early installments (the best of which was “Catching Fire”) are gone in the gray-and-gloomy part two of “Mockingjay.” All the color and vibrancy of the series has been drained away; a sizable chunk of action takes place in the sewer as Katniss and a band of

rebels, navigating various traps, stealthily storm toward Snow, with plans to assassinate him.

From the start, though, it's clear "Mockingjay Part 2" is neither intended for critics nor newcomers. It's for the fans of Suzanne Collins' books, to which the franchise has slavishly sworn its fidelity. "Mockingjay Part 2," directed by Francis Lawrence (who has helmed all but the first film) and penned by Danny Strong, Peter Craig and Collins, picks up where the last film left off, with barely a glance backward.

That, perhaps, is as it should be. "The Hunger Games" is for its passionate fans and - certainly in its final films - not anyone else.

At the heart of the phenomenon is Collins' clever rendering of passage into adulthood as survival through the (literal) slings and arrows of a cruel system that pits teenagers against one another in a competition that, for some, is barely more cutthroat than high school. Katniss' ascent comes not through her mastery of the game, but her rejection of its rules.

That's been somewhat true of the films, too, which have put a strong female protagonist at the heart of the franchise and surrounded her with only a limp love triangle (between Liam Hemsworth's Gale and Josh Hutcherson's Peeta, who was brainwashed in the last film) that's always been secondary to Katniss' plight.

Katniss does, though, have a curious habit of blacking out at key moments of battle. And in

"Mockingjay Part 2," she's still fighting against being used as a public-relations pawn for the rebellion, just as she was for Snow's regime. Unfortunately lacking much screen time are two of the most lively and gaudy characters of the films - Stanley Tucci's master of ceremonies and Elizabeth Banks' chaperone - who always gave things a kick.

Instead, the film is, well, dull. If Donald Sutherland is the most bubbly thing in your teenage sci-fi dystopia (and he is, by a mile), you may have stretched the seriousness too far.

Instead, a feeling of time passing "The Hunger Games" by pervades. What should have been one movie was stretched into two. Philip Seymour Hoffman, who died nearly two years ago but remains here as the rebel leader Plutarch, is a ghostly, abbreviated presence.

And Lawrence, still the magnetic center of the saga, can elevate the material only so much. Four years clearly wasn't fast enough for "The Hunger Games." Lawrence outgrew this stuff long ago.

"The Hunger Games: Mockingjay Part 2," a Lionsgate release, is rated PG-13 by the Motion Picture Association of America for "intense sequences of violence and action and for some thematic material." Running time: 137 minutes. Two stars out of four.

MPAA Definition of PG-13: Parents strongly cautioned. Some material may be inappropriate for children under 13.

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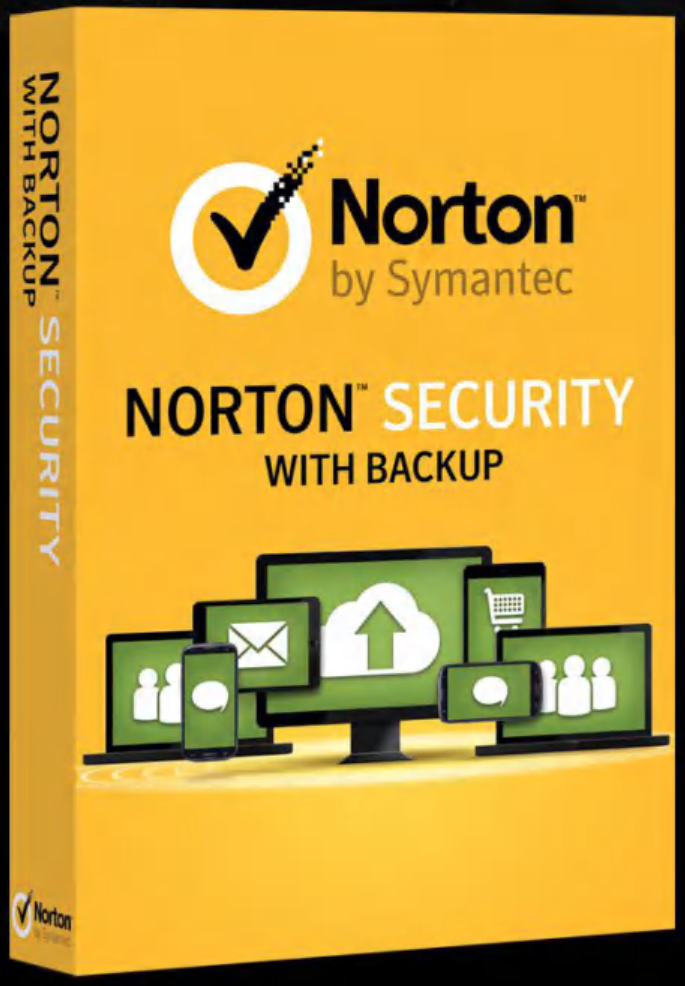
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# EXPRESSIONS OF SOLIDARITY FOR FRANCE IN RED, WHITE AND BLUE

Social media was awash Saturday in the red, white and blue of the French flag as people worldwide expressed their solidarity with a nation in mourning in the aftermath of the terror attacks in Paris.

Users of Facebook shaded their profile pictures in the French Tricolor, and on Twitter and Instagram, people posted vacation photos, teardrops and a peace symbol with the Eiffel Tower inscribed in the center as they expressed their grief over the carnage.

People also harnessed the power of social media in the search for their missing loved ones as Parisians desperate to get in touch with family and friends missing since Friday's wave of gun and bomb attacks posted heart-breaking messages and photos under the hashtag #rechercheparis - Paris Search.

Image: Leo Correa



Scores remain unaccounted for in the aftermath of the coordinated attacks on a rock concert, a soccer stadium, bars, restaurants and other popular nightspots that killed at least 129 people.

"Waleed is missing," read one post. "We last contacted him at the match, Please share & contact me if u have any info. #rechercheParis."

"I've been looking for my cousin since last night," read another. "He's 25 and 1m75. He's called Younes. #rechercheParis."

The photos and messages garnered hundreds of retweets from users eager to help in the search for survivors.



Across the globe, people joined in to offer sympathy and share a nation's pain. Many posted the poignant video of the Eiffel Tower - the beacon of the City of Light - going to black in memory of the dead.

Some of the world's most recognizable buildings and monuments - the Sydney Opera House, the Christ the Redeemer statue in Rio, One World Trade Center in New York, the Mexican Senate - were shaded in the colors of the French flag.

Sports teams also expressed their solidarity. The Washington Capitals splashed the red, white and blue of the Tricolor across the team's ice rink before Friday night's game against the Calgary Flames. "The National Anthem is playing, but tonight our thoughts are with Paris," a caption on the Capitals Twitter feed read.




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The images and sentiment, shared under the hashtags #prayforparis or #parisattacks, mirrored the outpouring of emotion that followed the Charlie Hebdo attacks 10 months ago.

One of the most shared was a peace symbol by Jean Jullien, a French graphic designer living in London, that showed a stark image of the Eiffel Tower rising in the center of a peace sign.

Jullien said the design came to him by simple association of Paris and peace.

“I was overwhelmed that so many people used it,” he said in an e-mail to the Associated Press. “It’s a communication tool for people to share their solidarity. It’s a message for peace.”



Image: Clive Gee

# BIG BOOKS MAKE GREAT GIFTS FOR THE HOLIDAYS

Coffee table books are always great gifts for just the right enthusiast, and they're plentiful at holiday time as quick grabs or advance buys.

A few suggestions, based on interest area:

## FASHION & CELEBRITY

"Harper's Bazaar: Models," by Derek Blasberg: Christy, Naomi, Linda, Kate, Gisele and more. In all, the magazine's editor in chief, Glenda Bailey, and editor at large, Blasberg, have selected 28 famous faces, with essays, covers and interviews. Abrams, $65.

"Curves," photographs by Victoria Janashvili: Portraits focused on body esteem for women, all women - short, tall, big and bigger. Janashvili ends with a nude self-portrait to, she writes, "see myself as a beautiful one - like all the women that I photograph." Self-published, $51 at **Curvesthebook.com**.

"Creating the Illusion: A Fashionable History of Hollywood Costume Designers," by Jay Jorgensen and Donald L. Scoggins: The people behind movie fashion get their due in long essays accompanied by production shots, illustrations and behind-the-scenes candids. From the silent era of Greta Garbo to Johnny Depp's pirate. Running Press, $65.

"Peter Lindbergh: Images of Women II," designed by Juan Gatti, text by Werner Spies, Wim Wenders and Peter Handke: The German photographer's work spanning 2005 through 2014, black and white from the worlds of fashion, society and film. Portraits and nudes include Nicole Kidman, Tilda Swinton and Kate Winslet - and a few famous men. Schirmer/Mosel, $99.95.

## PHOTOGRAPHY, FILM & ILLUSTRATION

"Schatz Images: 25 Years," by Howard Schatz: A stunning, two-volume box set from the award-winning photographer spanning portraits of murderers and athletes, dancers and models, pregnant moms and "interesting nobodies," as the publisher puts it. A limited-edition retrospective. Glitterati Inc., $365.

"Fellini: The Sixties," by Manoah Bowman: Focused on the director's most iconic work, including "Dolce Vita," "81/2," "Juliet of the Spirits" and "Fellini Satyricon." Includes some never-before-seen archive photos, along with stills and essays from an array of contemporary writers. A collaboration between Turner Classic Movies and Running Press, $65.

"Nextinction," by Ralph Steadman and Ceri Levy: A follow to the cartoonist's wild collection of extinct birds. The 192 here, in Steadman's trademark trippy style, are alive but endangered, including the giant ibis, the kakapo and the spoon-billed sandpiper. Steadman and Levy have dubbed themselves the "gonzovationists." Portion of proceeds to BirdLife International. Bloomsbury, $50.

"Back to the Future: The Ultimate Visual History," by Michael Klastorian and Randal Atamaniuk:

Marking the 30th anniversary of the original movie, hundreds of images from all three in the time-travel trilogy. Concept art and storyboards are also included, along with cast and crew interviews. Harper Design, in conjunction with Universal Pictures, $50.

## TV & MUSIC

"Dr. Who: Impossible Worlds," by Stephen Nicholas and Mike Tucker: For the hard-core fan, this volume offers a 50-year history of the show in art and design. Extras at the back include sketches, schematics and full-color sets on cards tucked into an envelope. Harper Design, $45.

"Blue's Hands," by Joseph A. Rosen: The photographer chronicles his own 30-year love affair with blues music focusing on the working hands of some of the greats. In full color close-ups, from juke joints to concert halls and luxury liners, Rosen sticks to his mission of letting the hands tell the story, with nugget bios of each artist at the back. Schiffer Publishing, $29.99.

"Bob Dylan All the Songs," by Philippe Margotin and Jean-Michel Guesdon: This is the story behind every track. That's 492 songs. Along with exhaustive notes on players, lyrics and production, the two have included bites of

backstory for true "Dylanologists." Photos of the man and his famous friends and collaborators abound. Black Dog & Leventhal, $50.

"Dust & Grooves: Adventures in Record Collecting," by Eilon Paz: One need not be a vinyl head to appreciate this book, but one does need a healthy appreciation of music. This gem reads like "Humans of New York" of the crate-digging scene. Paz first self-published his ode to vinyl collectors, beginning in New York but spreading to collectors from Portugal to Japan to his native Israel and back again to Brooklyn. In all, he tells the stories and lovingly photographs the collections of more than 130 people, including Acid Jazz record label co-founder Gilles Peterson, among other notables. Ten Speed Press, $50.

## TRAVEL & POP CULTURE

"Passage to Cuba," by Cynthia Carris Alonso: The photographer has spent 20 years shooting Cuba. At a time of openness for American visitors, she captures street scenes, historic moments and beautiful landscapes, from Havana to the sparkling blue shoreline of Varadero Beach. In thoughtful but spare text, she explains the Spanish architecture of Old Havana, poses the dancers of Cuba's water ballet team and shares her shots of a rally celebrating the return of Elian Gonzalez. Skyhorse Publishing, $45.

"John Baeder's Road Well Taken," by Jay Williams: Nobody captured "diner consciousness" quite like the realist painter Baeder. In this volume, Williams creates a full account of Baeder's life, including interviews with the artist and nearly 300 images of his collectable diner paintings, watercolors, vintage photos and memorabilia. The Vendome Press, $45.

"The National Parks: An American Legacy," photographs by Ian Shive: The National Park Service marks its 100th anniversary in 2016. From a portrait of a golden-mantled ground squirrel in Glacier National Park to a serene sunset at Denali, this book includes more than 200 never-before-seen images. A bald eagle guards prey in Olympic National Park, the stark dunes at White Sands create a wind pattern and the sunrise turns peaks yellow in Death Valley. Insight Editions, $50.

"Revolution: Mapping the Road to American Independence, 1755-1783," by Richard H. Brown and Paul E. Cohen: 60 detailed, full-color maps tell the story of the American Revolution. Many document decisive battles, accompanied by essays putting them into context. Geeks of the period will revel. W.W. Norton & Company, $75.

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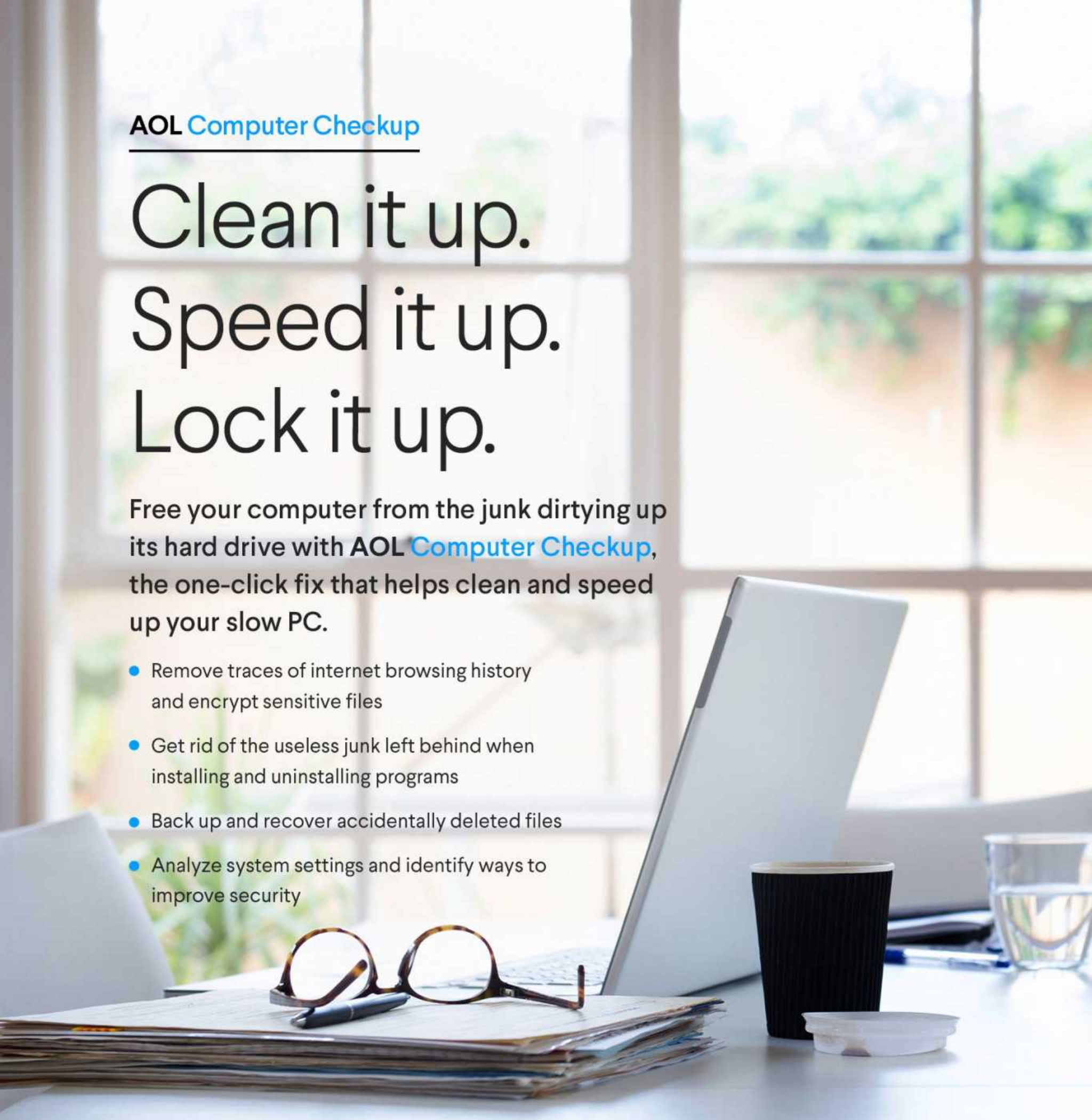
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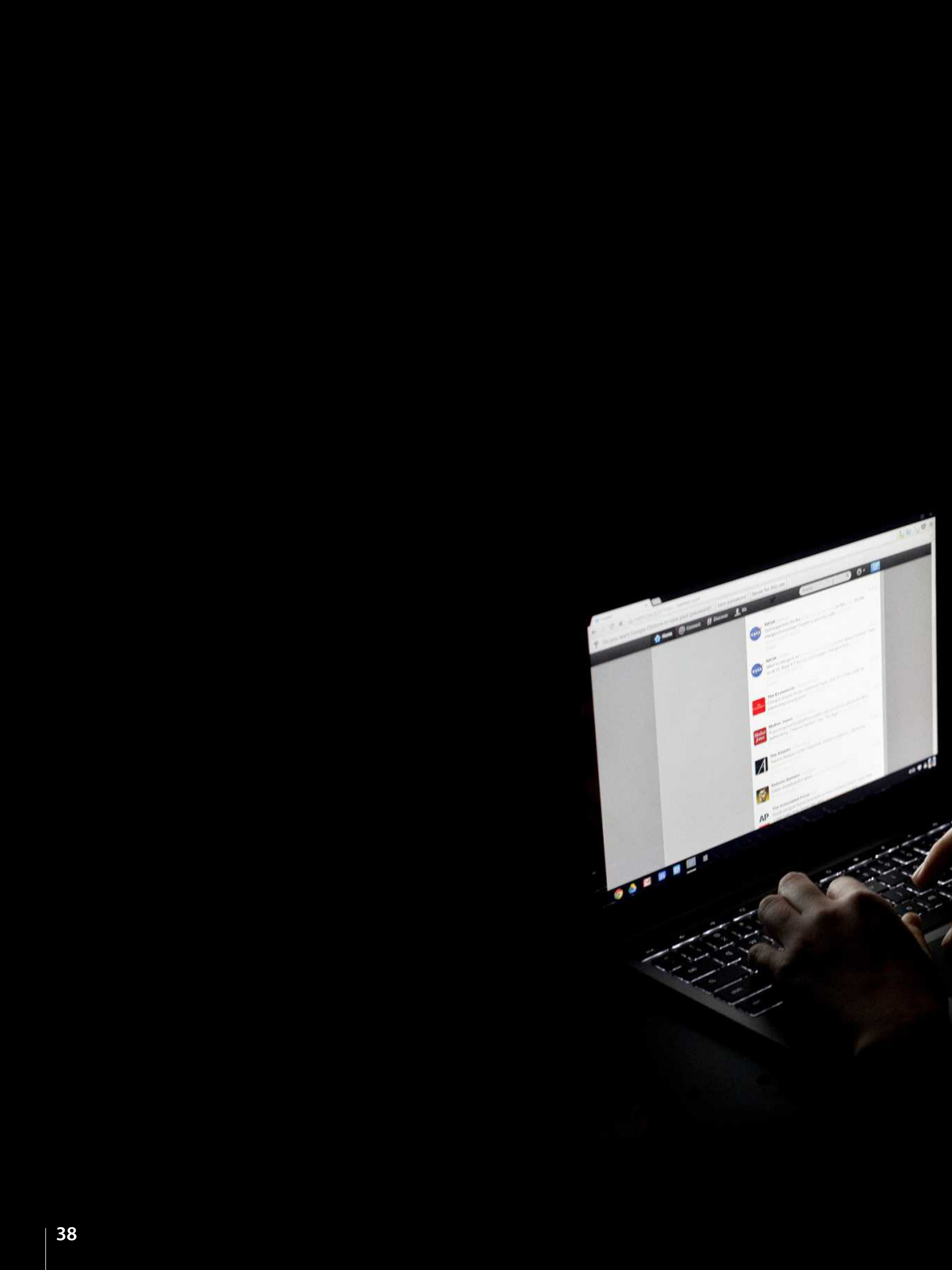
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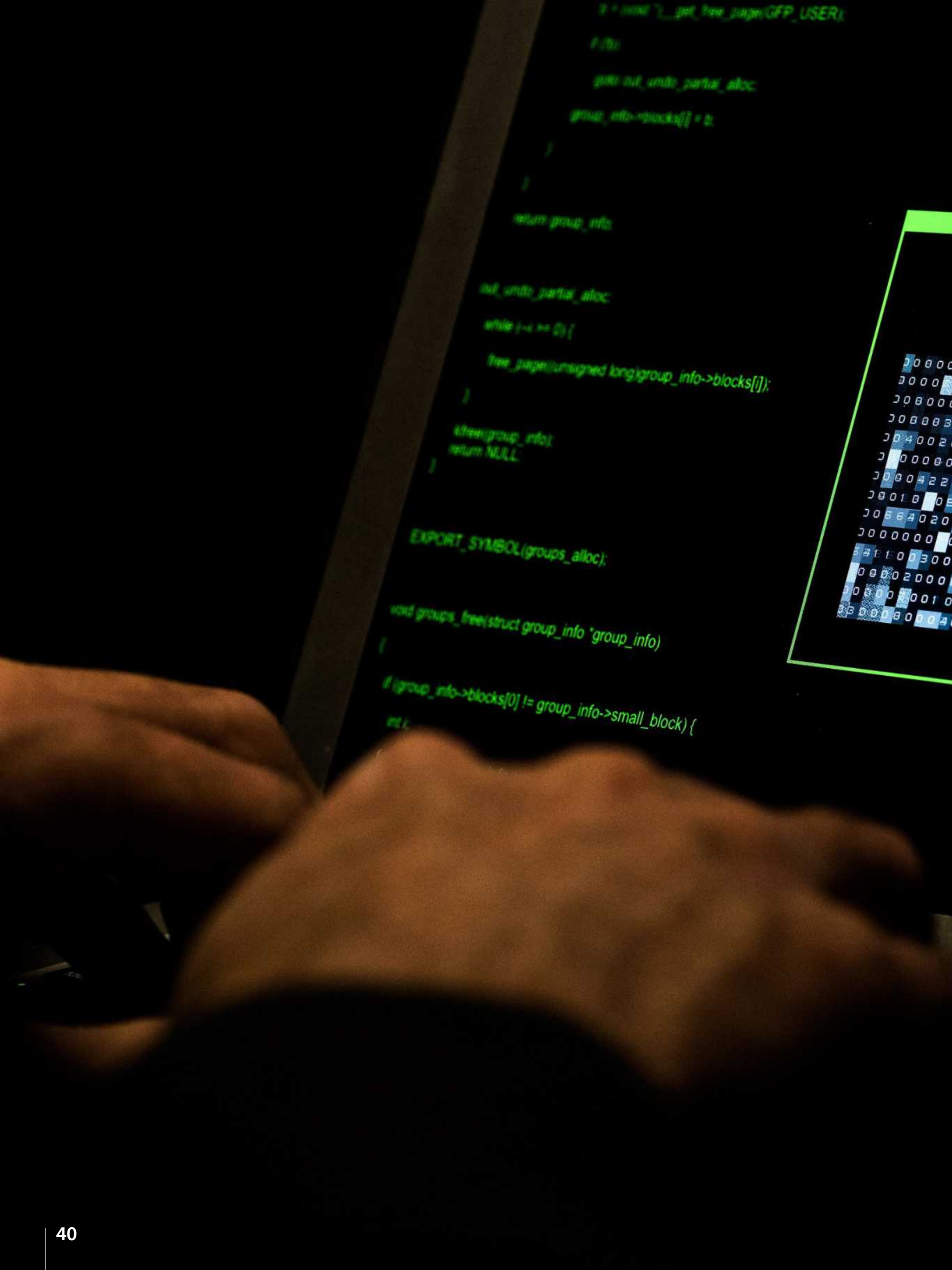
# HERE WE GO AGAIN: PARIS ATTACKS MAY RENEW ENCRYPTION DEBATE



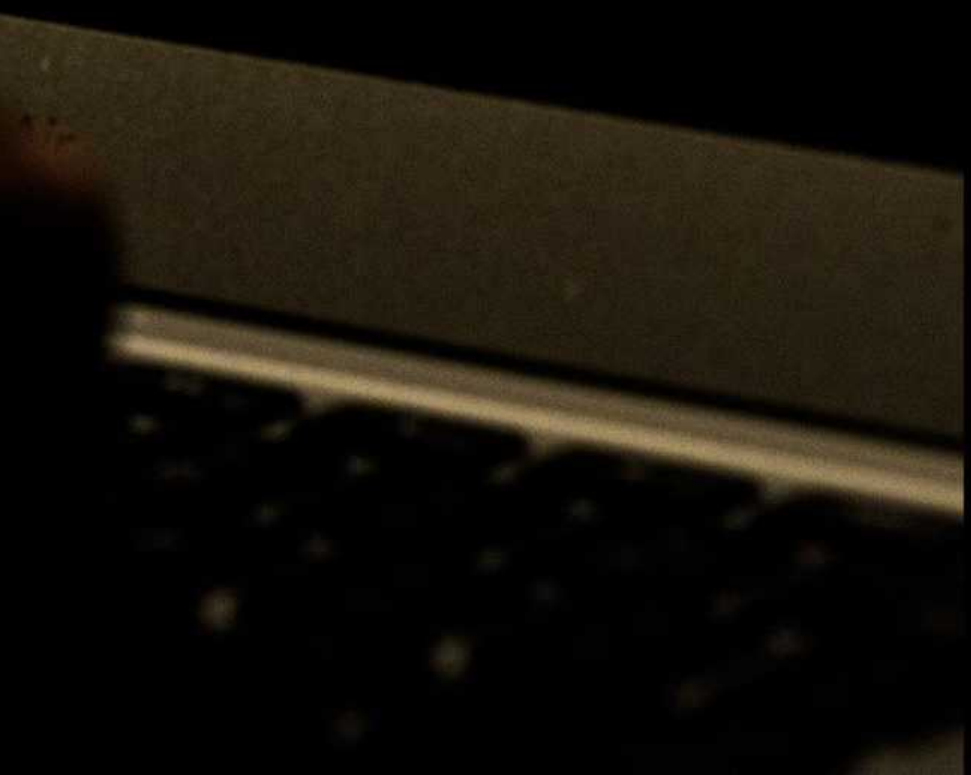
The deadly attacks in Paris may soon reopen the debate over whether - and how - tech companies should let the government sidestep the data scrambling that shields everyday commerce and daily digital life alike.

So far, there's no hard evidence that the Paris extremists relied on encrypted communications - essentially, encoded digital messages that can't be read without the proper digital "keys" - to plan the shooting and bombing attacks that left 129 dead on Friday. But it wouldn't be much of a surprise if they did.

So-called end-to-end encryption technology is now widely used in many standard message systems, including Apple's iMessage and Facebook's WhatsApp. Similar technology also shields the contents of smartphones running the latest versions of Apple and Google operating software. Strong encryption is used to protect everything from corporate secrets to the credit-card numbers of online shoppers to intimate photos and secrets shared by lovers.


out_undo_partial_alloc:
while (--i >= 0) {
free_page((unsigned long)group_info->blocks[i]);
}
kfree(group_info);
return NULL;
}
EXPORT_SYMBOL(groups_alloc);
void groups_free(struct group_info *group_info)
{
if (group_info->blocks[0] != group_info->small_block) {



That widespread use of encryption, which was previously restricted to more powerful desktop or server computers, is exactly what worries members of the intelligence and law enforcement communities. Some are now using the occasion of the Paris attacks to once again argue for restrictions on encryption, saying it hampers their ability to track and disrupt plots like this one.

"I now think we're going to have another public debate about encryption, and whether government should have the keys, and I think the result may be different this time as a result of what's happened in Paris," former CIA deputy director Michael Morell said Monday on CBS This Morning.

The last such debate followed the 2013 disclosures of government surveillance by former National Security Agency contractor Edward Snowden. Since then, tech companies seeking to reassure their users and protect their profits have adopted more sophisticated encryption techniques despite government opposition. Documents leaked by Snowden also revealed NSA efforts to break encryption technologies.

In response, law-enforcement and intelligence officials have argued that companies like Apple and Google should build "backdoors" into their encryption systems that would allow investigators into otherwise locked-up devices during investigations. The Obama administration continues to encourage tech companies to include such backdoors, although it says it won't ask Congress for new law that requires them.

The trouble with that approach, as Apple CEO Tim Cook said in an interview last week with The Daily Telegraph, is that "any backdoor is a backdoor for everyone." In short, any shortcut for investigators could also be targeted by cybercriminals eager to hack major corporations - a la the devastating cyberattack on Sony late last year - or to target individuals for identity theft or extortion, as reportedly occurred following the disclosure of records from the infidelity dating site Ashley Madison.

A report on the state of digital security released this summer by MIT's Computer Science and Artificial Intelligence lab argued against opening a peephole for government agencies. The analysis by 15 professors, security experts and researchers likened the idea of giving the government a digital key to encrypted communications to leaving a house key under the front doormat.





"The Snowden revelation showed that backdoors can be destructive, particularly when they're done in secrecy without transparency," says Will Ackerly, a former NSA security researcher and the co-founder of Virtru, which provides encryption technology for both companies and individual people.

Steven Bellovin, a Columbia University professor and computer security researcher, said he wasn't surprised  by the effort to bring back discussion on encryption backdoors. But he said it's way too early to tie it to the Paris attacks.

"We don't know how these people were communicating and with whom," he said. "If they were communicating with homegrown software and there's some indications of that, then a mandatory back door is not going to do any good."

# REVIEW: 10 DECADES AND STILL GOING: ROGER ANGELL LOOKS BACK

"This Old Man: All in Pieces" (Doubleday), by Roger Angell

You don't make it to age 95 without seeing a lot of stuff. Or in the case of Roger Angell, writing it.

Having delivered his memoir nearly a decade ago ("Let Me Finish," published in 2006), Angell combed through six decades' worth of work to put together this collection: "This Old Man: All in Pieces."

Much of it is reprinted from the pages of The New Yorker. Angell's a true craftsman, carefully picking each word and phrase and, like any good editor, cutting out the fluff. The best entries are about baseball, which he began covering for The New Yorker in 1962. There are obits for Bob Feller, Earl Weaver and Don Zimmer, tributes to Jackie Robinson, Derek Jeter and Bob Gibson, and game recaps from recent World Series victories by the Red Sox and Giants.

As Angell writes in the introduction, "Readers are invited to ... skip about, make a grab, turn back."

So first read the title piece nestled near the end if you haven't already. Angell wrote "This Old Man" last year and it deserves every accolade it's received. Deeply personal and yet universal in its sentiment, it's a marvel of the essay form.

Interspersed throughout the book are non-traditional writings like haikus about one of his beloved fox terriers and The New Yorker's annual Christmas letter ("Greetings, Friends!"), as well as correspondence between Angell and the fiction writers he collaborated with for the magazine - Ann Beattie, Robert Creamer and Tracy Daughtery, just to name a few. To Beattie, now one of the country's most celebrated short story writers, he wrote in 1985: "I'm sorry - extremely sorry - to say that we're sending back 'Another Day.' No one here could recognize these people; they don't seem to have any connection with real life."

The "Past Masters" is another highlight. Angell offers literary criticism of "Lolita" as he remembers Vladimir Nabokov, pays tribute to the eternal writerly advice of his stepfather, E.B. White, in "The Elements of Style" ("Revise and rewrite," "Do not explain too much" and "Be clear"), and heaps praise on the illustrations of William Steig, whose cartoons distinguished The New Yorker from other magazines.

What stitches together the collection is a sense of gratitude. Angell knows he's lived a full life enriched by family, friends and colleagues. He doesn't know when his life will end, but came to terms with that long ago. (From "This Old Man": "There's never anything new about death, to be sure, except its improved publicity.") It feels like he assembled this collection in great part to say thank you. But it's his readers who should be saying it. For as long as we have him and as long as he's still contributing to The Sporting Scene and other fixtures of The New Yorker, we should appreciate his talent.

**Online:**

**http://www.newyorker.com/contributors/roger-angell**

# TERRORISM & DISASTERS:

## HOW TECHNOLOGY CAN LEAD THE FIGHTBACK

Devices and apps:
potent weapons against terror





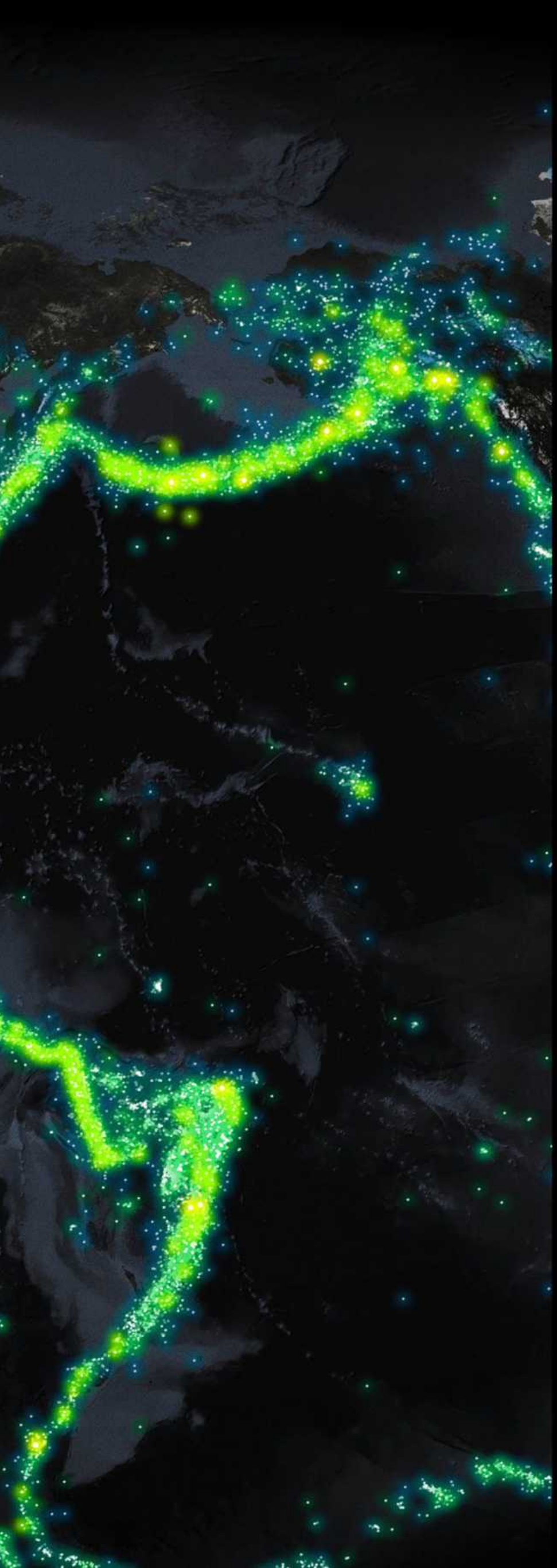
Image: Suzanne Plunkett

Headlines around the globe have been dominated by news about **the series of co-ordinated terrorist attacks in Paris on the evening of November 13**. Having killed over 120 people, the terrorist attack has proved the deadliest in Europe since 2004's Madrid train bombings, which claimed 191 lives. But, while the world continues to recover from the shock, it is worth raising the question of what roles consumer technology could play in preventing or countering terror or natural disasters.



## #01 – QuakeFeed Earthquake Map, Alerts and News

By Artisan Global LLC
Category: Weather
Requires iOS 7.0 or later. Compatible with iPhone, iPad, and iPod touch.



## APPS TACKLING EARTHQUAKES, TORNADOES AND NATIONAL INSECURITY

Even just a few cursory searches through the iOS App Store or Google Play store reveal the ready availability of various smartphone and tablet apps that could be effectively used for reacting to threats and saving lives. Social media has long proved a particularly vital tool for tracking crises as they emerge, as was demonstrably the case from the earliest breaking news of the Paris attacks - and the Facebook and Twitter mobile apps have often attracted acclaim for their intuitive interfaces.

Many other apps, however, have more specialist purposes. Many are geared towards assisting people in preparing for or reacting to such natural disasters as earthquakes and tornadoes. Apps in this category include QuakeFeed, which provides maps indicating the locations of tectonic plates and **can alert users of earthquakes measuring over 6.0 on the Richter magnitude scale**.

Another app, developed by Nigeria-based company PISI Ltd two years ago in reaction to insecurity in the native country and other countries around the world, is E-Alert. Billed as providing **"Personal Security On The Go"**, it provides what the Nigerian news outlet the Lagos-based Daily Independent has dubbed **"a free emergency security service" to help prevent kidnappings, terror and other dangerous infractions**. The app's functions include an emergency panic button for freely notifying family in an emergency and GPS tracking of the user's location every 45 seconds after contacts have initially received alerts.

## FROM OPTIONAL EXTRAS TO INTEGRATED SAFETY TOOLS

Some such apps now even come bundled with new devices or operating system updates. One good example is Find My Friends. You might have first noticed this app's icon, depicting two white silhouettes on an orange background, on your iOS device after updating to iOS 9 earlier in the fall - but it was actually first released by Apple, then as an optional app, **for the then new iOS 5 in October 2011.**

A user of this app can switch on Location Services on their iOS device in order to allow a select number of people, such as family and friends, to determine their location - or, at least, that of the device - using GPS technology. Someone using an iOS device or Mac to track a Find My Friends user can also receive alerts informing them when that individual has arrived at a particular place; after the Paris attacks, for example, an alert could have been sent to indicate that a loved one in the city has safely arrived home.

A similar app that has a long history but only became bundled with iOS from this fall is Find My iPhone - the name of which is accordingly changed for the same app on iPads, iPods and Macs. A rather self-explanatory app, it allows remote location-tracking of iOS devices and Macs - and so could prove utterly vital should you lose a device which includes urgent or sensitive information. In 2012, Find My iPhone was used by police in Atlanta, Georgia to **locate robbery suspects by tracing a stolen iPhone**.



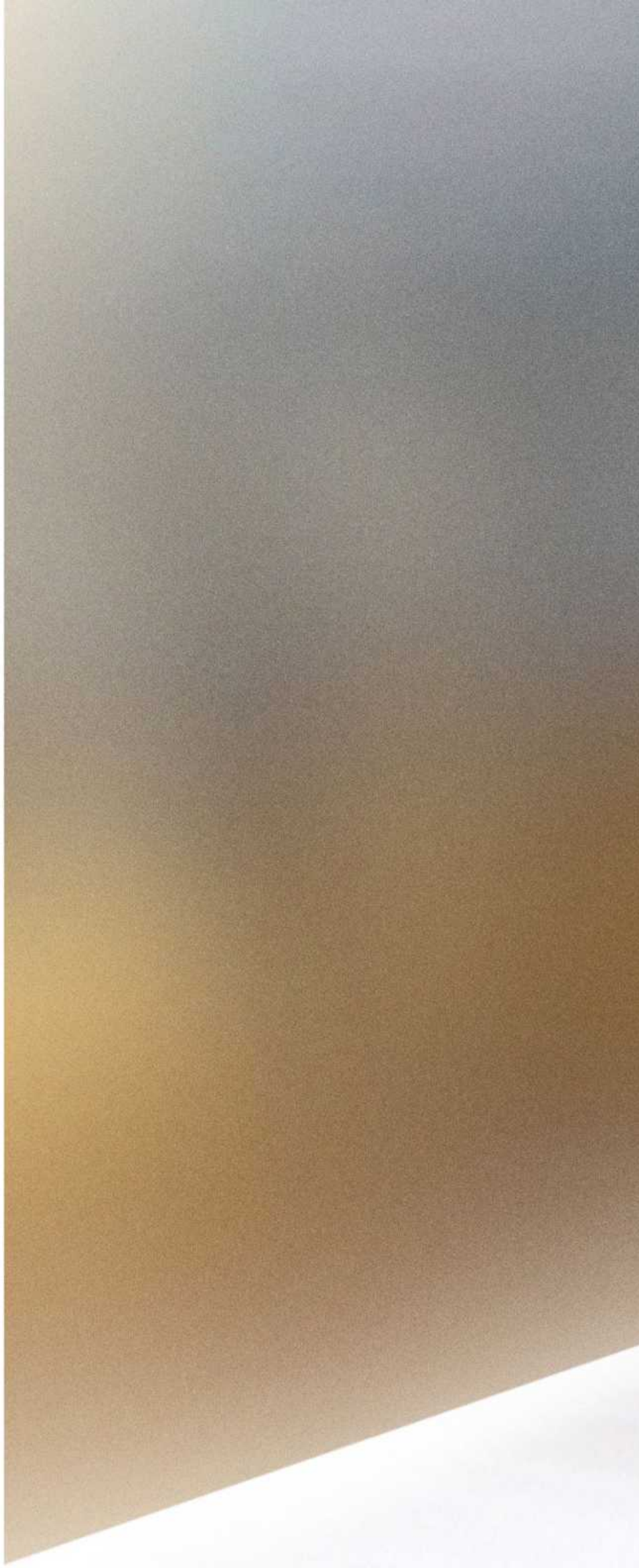

13:22
93%
Find My iPhone
Apple ID
@gmail.com
Password

## CAUGHT ON CAMERA...
## AND BROUGHT TO JUSTICE

What with cameras now coming as standard on even many rudimentary smartphones, it has become easier for many ordinary observers, or "citizen journalists", to visually capture crises - in both photo and video - as they unfold. The resulting photo and video can then be speedily posted to social media sites, where they can be readily seen and widely disseminated by others, including news outlets.

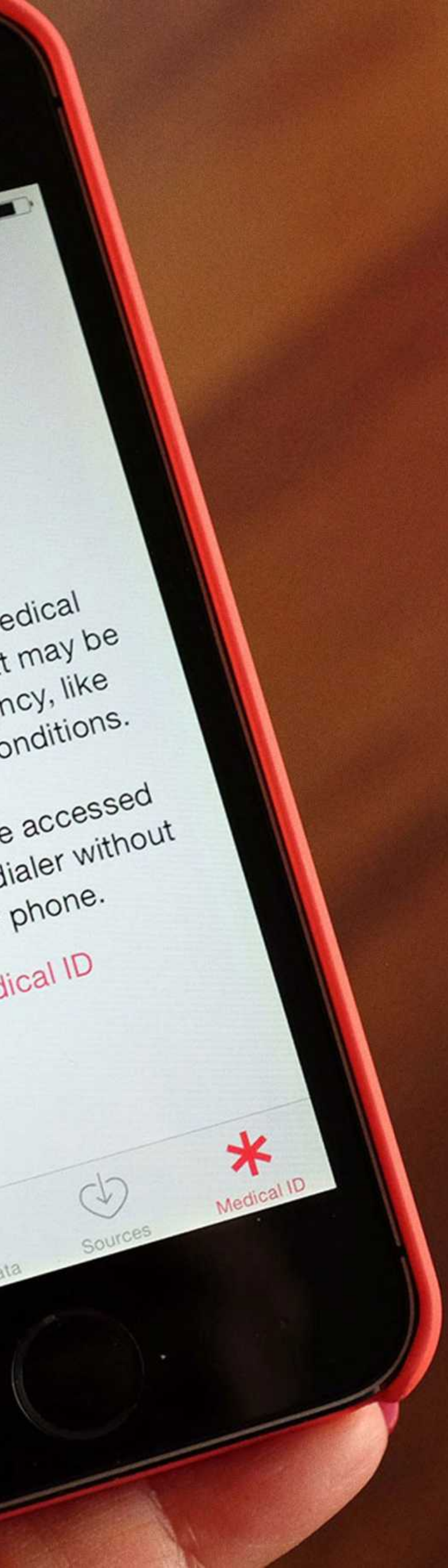
This situation can increase the hurdles that many suspect criminals need to overcome to avert detection, and this is before we consider apps that have been built more specially for crime-fighting purposes. One such app is Manything, which can **convert a spare iOS device into a home security webcam.** A second iOS device can be used for remotely controlling the camera device and receiving alerts should dubious motion be picked up in the area under surveillance.

It's also testament to the effectiveness of iOS cameras for such purposes that their use has extended beyond consumers. Redlands Police Department has reported adding iPhones to officers' duty belts; Jim Bueermann, Chief of Police for the City of Redlands, has observed how the **officers use iPhones to "take photos of victims or potential suspects"**, while mention has been made of how an iPad's large, clear display helps the department's command staff, officers and detectives to look at photos in more detail.






**#02 – Manything**
By Manything
Category: Lifestyle
Requires iOS 6.0 or later. Compatible with iPhone, iPad, and iPod touch.




## HELPING OTHER PEOPLE TO HELP YOU

Though we have detailed many apps that you could personally use on your iPhone to help bring yourself out of danger, what happens if you become struck by an injury that prevents you from personally using your iPhone? In this situation, someone else could come to the rescue - and even help you to recover from your injury through using your iPhone. Yes, even without bypassing the Lock screen...

The Health app which debuted with the release of iOS 8 last year has many useful functions for looking after and boosting your health. However, one that you may have overlooked is the ability to create an emergency card, called Medical ID, that anyone with your iPhone can access without having to pass the Lock screen. Simply by swiping before pressing 'Emergency' on the screen, someone can bring up emergency contact details and vital health information, like your medical conditions and medications.

This feature has to be manually set up before it can be put to use, and AppleInsider **offers a comprehensive step-by-step guide for doing so**. There are also alternative strategies to setting up Medical ID, like adding your crucial medical information to the device's Lock screen wallpaper image.

## THE iPHONE: A FORMIDABLE LAW ENFORCEMENT TOOL

We have seen many instances here of how smartphones and tablets can help to prevent deaths and other disasters. But, in the kind of situation that the people of Paris are now facing, where the broken pieces have to be picked up, how can this technology be used to suitably react to attacks and accidents that have already occurred?

Cult of Mac has provided an insight, pointing out that **the iPhone has become a popular tool in law enforcement for taking and identifying fingerprints of suspect criminals**. The handset has even been eyed by the FBI for spotting suspect terrorists. The iPhone-compatible fingerprint device known as the mobileOne and made by Fulcrum Technologies is affordable for even small police departments, largely because many police officers already have iPhones, and can capture fingerprints that meet the FBI's demanding standards.

Image: Dan Kitwood

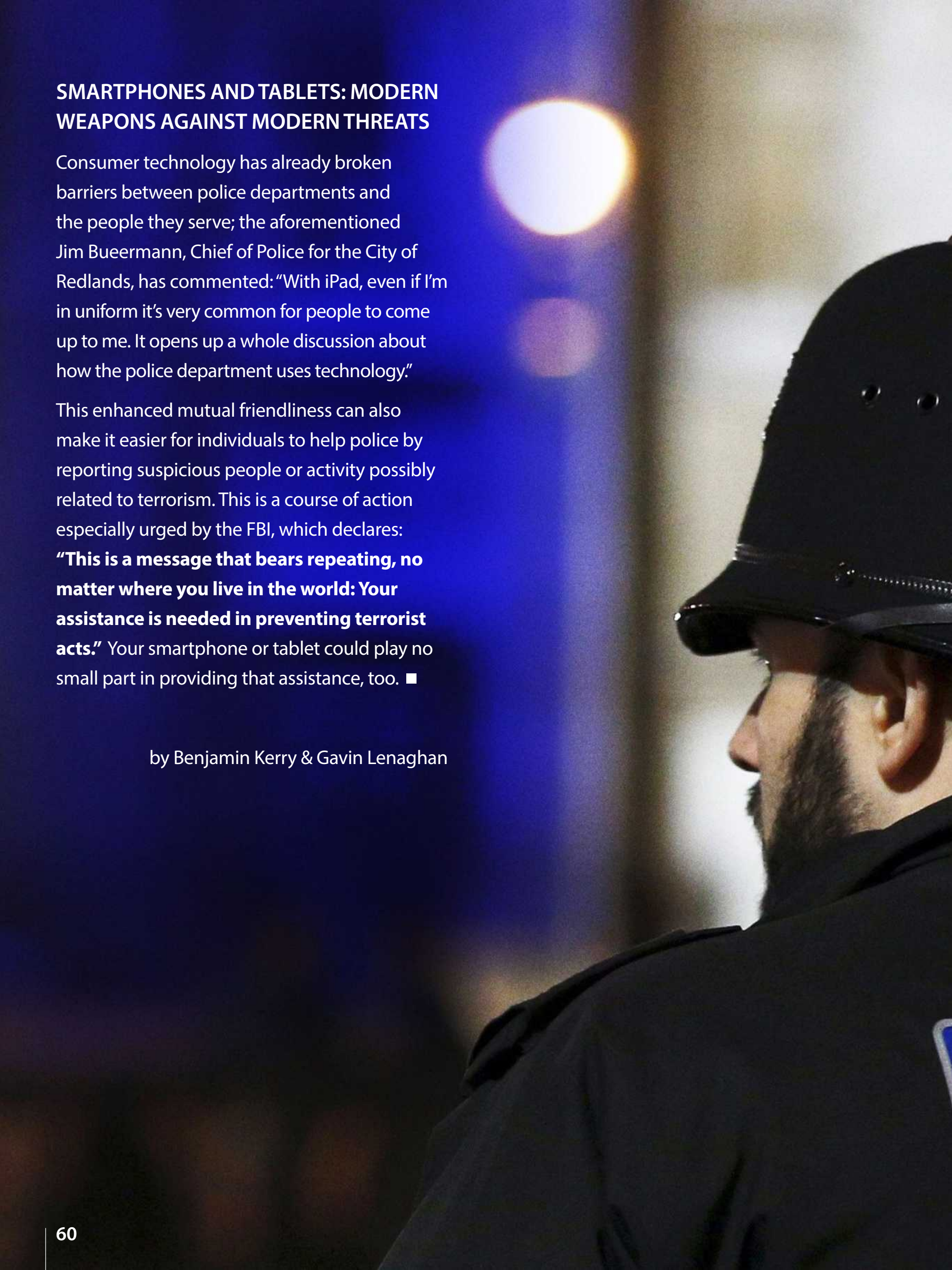

POLICE

## SMARTPHONES AND TABLETS: MODERN WEAPONS AGAINST MODERN THREATS

Consumer technology has already broken barriers between police departments and the people they serve; the aforementioned Jim Bueermann, Chief of Police for the City of Redlands, has commented: "With iPad, even if I'm in uniform it's very common for people to come up to me. It opens up a whole discussion about how the police department uses technology."

This enhanced mutual friendliness can also make it easier for individuals to help police by reporting suspicious people or activity possibly related to terrorism. This is a course of action especially urged by the FBI, which declares: **"This is a message that bears repeating, no matter where you live in the world: Your assistance is needed in preventing terrorist acts."** Your smartphone or tablet could play no small part in providing that assistance, too. ■

by Benjamin Kerry & Gavin Lenaghan




BRITISH TRANSPORT
POLICE





*“It’s a message of peace and solidarity. I didn’t do it to benefit from it in any way. It was my way of communicating with the people I know and showing that I was thinking about everyone affected in Paris. The fact that people shared it and used it, well, in a way that’s all for the better. It’s an image for everyone. It’s a communication tool for people to express solidarity and peace and that’s what it’s being used for, so I’m glad that it’s been useful.”*

Jean Jullien

# US STARTUP CHALLENGES JAPAN TO GIANT ROBOT BATTLE

They've been popularized in movies, television and video games, but giant fighting robots still haven't left the realm of science fiction. That will soon change.

Megabots Inc., an Oakland, California-based startup, has built a 15-foot mechanical gladiator called the Mark II and challenged a Japanese firm to an international battle for robot supremacy.

Tokyo-based Suidobashi Heavy Industries, maker of the 13-foot Kuratas, accepted the challenge, setting the stage for the first giant robot battle of its kind next year. The exact date and location are yet to be determined.

Win or lose, it's all part of Megabots' plan by to make gladiator-style robot combat into big-time entertainment - a mix between Ultimate Fighting Championship and Formula One auto racing - while developing new industrial technologies and inspiring a new generation of engineers.

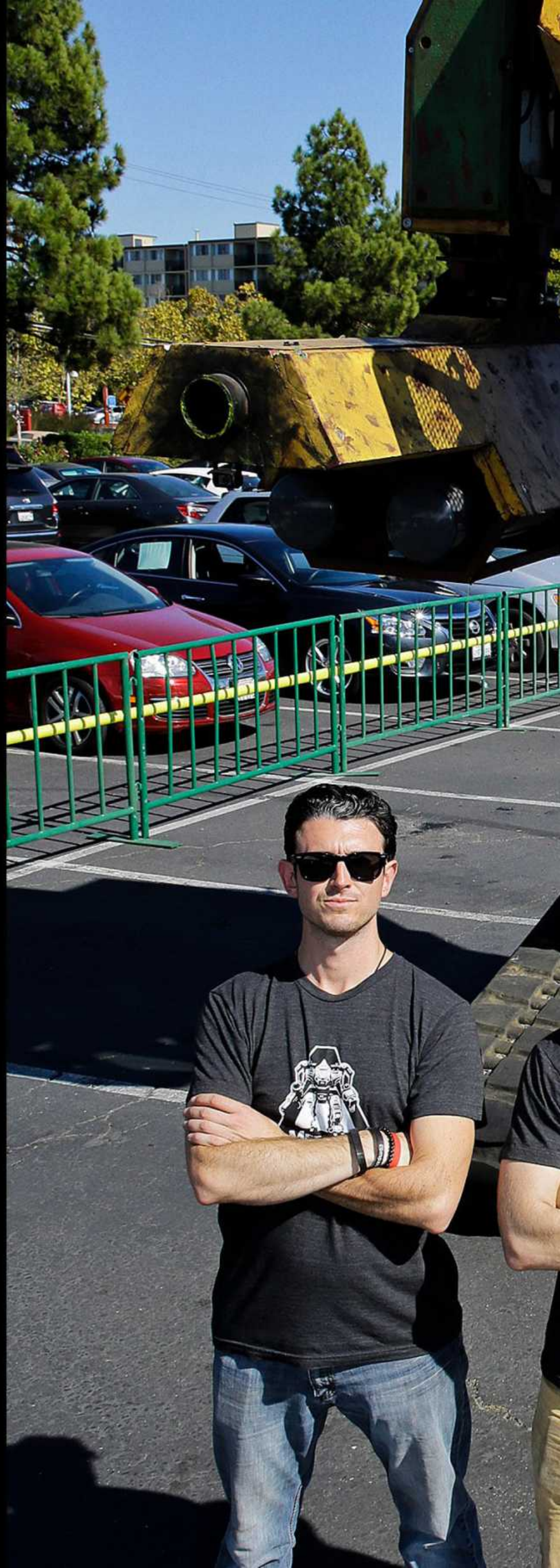


Image: Eric Risberg



The Megabots founders envision a sports league where teams from around the world build huge humanoid robots that throw each other down in stadiums filled with screaming fans.

“Everyone wins as long as there is robot carnage,” said Megabots co-founder Matt Oehrlein, an electrical engineer. “People want to see these things fight. They want to see them punch each other, they want to see them ripped apart and they want to be entertained.”

Megabots was launched in 2014 by Oehrlein, Gui Cavalcanti and Brinkley Warren, who grew up playing video games like “MechWarrior” and “BattleTech,” and wanted to fulfill their dreams of watching massive machines fight.

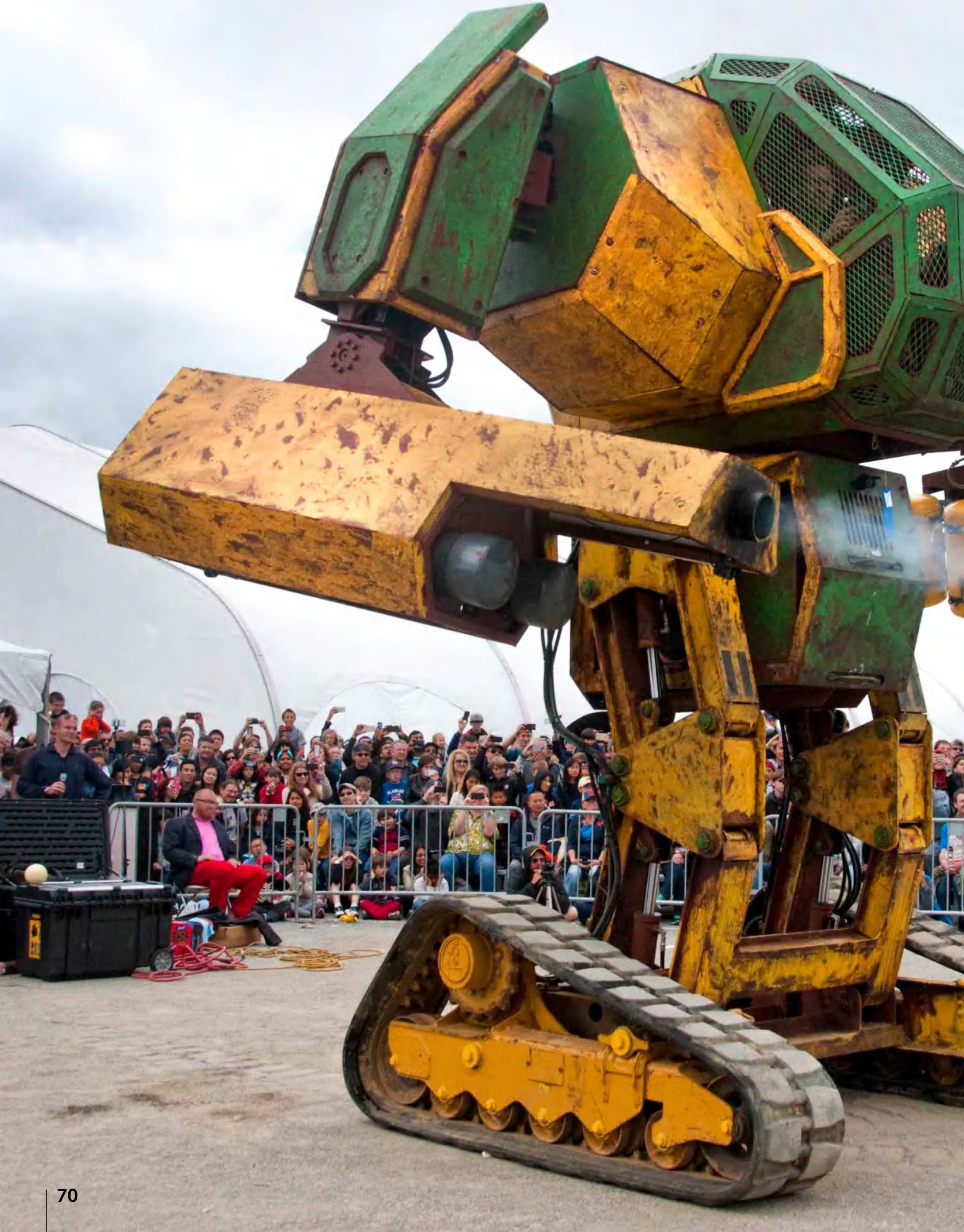
“We want to bring the giant robots from science fiction and movies and video games to life because now we have the technology,” said Cavalcanti, a robotics engineer. “It’s really about: How do we put on the best show? How do we make the coolest fight?”

Inside a cavernous Oakland workshop, the Megabots founders built the Mark II - a 12,000-pound behemoth with tank treads, two-pilot cockpit and missile launcher that fires canon ball-sized paintballs.

Then Oehrlein called out Suidobashi in a YouTube video: “We have a giant robot. You have a giant robot. You know what needs to happen. We challenge you to a duel.”

Suidobashi’s founder Kogoro Kurata accepted in his own video: “We can’t let another country win this. Giant robots are Japanese culture. Yeah, I’ll fight. Absolutely.”





Kurata also taunted the Megabots team: "Come on guys, make it cooler. Just building something huge and sticking guns on it, it's super American."

The Megabots robot isn't quite ready to take on Kuratas, a more polished fighting machine with a big, agile hand that mimics the movements of the pilot's hand.

"Our current robot, the Mark II, looks pretty intimidating," Oehrlein said. "The truth is, it's pretty slow. It's top-heavy. It's rusty, and it needs a set of armor upgrades to be able to compete in hand-to-hand combat."

That's why Megabots launched an online Kickstarter campaign and raised more than $550,000 from robot fans to turn the Mark II into a real fighting machine - faster, tougher, more balanced and equipped with detachable weapons such as a giant chain saw or punching fist.

The startup has enlisted the help of engineers from NASA, software maker Autodesk, the TV shows "Mythbusters" and "BattleBots."

"We're absolutely confident that Team USA can beat Japan. We've assembled the best of the best of this country. We're not going to let our country down," Calvalcanti said.

Robot enthusiasts like Gordon Kirkwood are eagerly anticipating the fight.

"I think it's going to be a smash hit," said Kirkwood, a robotics engineer in San Francisco. "This has the potential to be a fantastic spectator sport that people would really pay good money to see."

# SOME US SKI RESORTS EXPLORE POSSIBILITY OF 'DRONE ZONES'

A drone hovers about 30 feet above the skier's head, then quickly swoops down for a tighter angle so its video camera can capture his every move as he carves down a steep powder stash.

It's not a scene from the latest Warren Miller movie. It's something the founders of a Silicon Valley production company hope to bring to a ski resort near you - allowing customers to get the ultimate selfie in a "drone zone."

Louis Gresham, co-founder of Cape Productions, said the year-and-a-half-old company has partnered with nine resorts across the country so far and has already launched its service in Canada.

"Video is almost the new currency. Everyone wants pictures of themselves," he said, citing the popularity of GoPro adventure cameras and phone apps like Vine, Snapchat and Instagram. "All these companies are trying to give people tools to better broadcast themselves."

At U.S resorts, Cape Productions is expected to charge between $100 and $200 for a photo shoot that includes three runs. Within 48 hours, customers get a one-and-a-half- to two-minute, professionally edited video that incorporates aerial and landscape footage, music and shots from stationary cameras.

"We have a lot of creative freedom to get different angles of skiers as they are going down the mountain," Gresham said. "The sky is the limit for drones."

Cape Productions, which is backed by more than $10 million in venture capital, received full permission from the Federal Aviation Administration in October to fly the drones,

which cost about $4,000 each and are about the size of a large crow.

Gresham said only one drone would be in the air at a time on one designated run, and as far as privacy is concerned, it would be unlikely any other skiers or snowboarders would be in the shot.

"People think of this 'drone-pocalypse' and there will be drones flying everywhere. Not at all," he said. "We would hate to have drones flying around everywhere."

Initially, the drones are expected to take flight in December at Homewood Mountain Resort and Squaw Valley in northern California, both of which are on private land. But it could take longer to get permission to fly them at other U.S. resorts, many of which operate on public land and would need U.S. Forest Service approval.

Steve Hurlbert, a spokesman for Colorado's Winter Park Resort, which sits entirely on public land, and, like most ski resorts bans the use of drones, said everything is contingent on approval by the Forest Service. It's still too early to know if drones will be featured at the resort.

"We're just trying to figure out how to take advantage of the cool technology," he said. "Anything we want to implement from a technology standpoint is to enhance the guest experience."

Feedback to the possibility of drones buzzing Winter Park's slopes has been mixed, Hurlbert said, but there is no denying that the demand for personal footage is there.

"All you have to do is stand in a lift line and look around and one in every three helmets has a GoPro attached to it," he said. "We look at it from the standpoint that if you want to share your experience at Winter Park, that could be a really dynamic way to do that - with a drone."

Dave Byrd, director of risk and regulatory affairs for the National Ski Areas Association, said he gets a handful of calls each week from resorts asking for advice - and he has some concerns about the unrestricted use of drones, especially by hobbyists.

"Drones run the gamut of technology," he said. "What we're fearful of is the day after Christmas every teenager who gets a drone under the tree is going to show up."

He said it's better to leave drone operations at ski resorts to professional companies like Cape Productions, which has trained staff, FAA approval and the proper equipment to fly at high altitude and in cold temperatures.

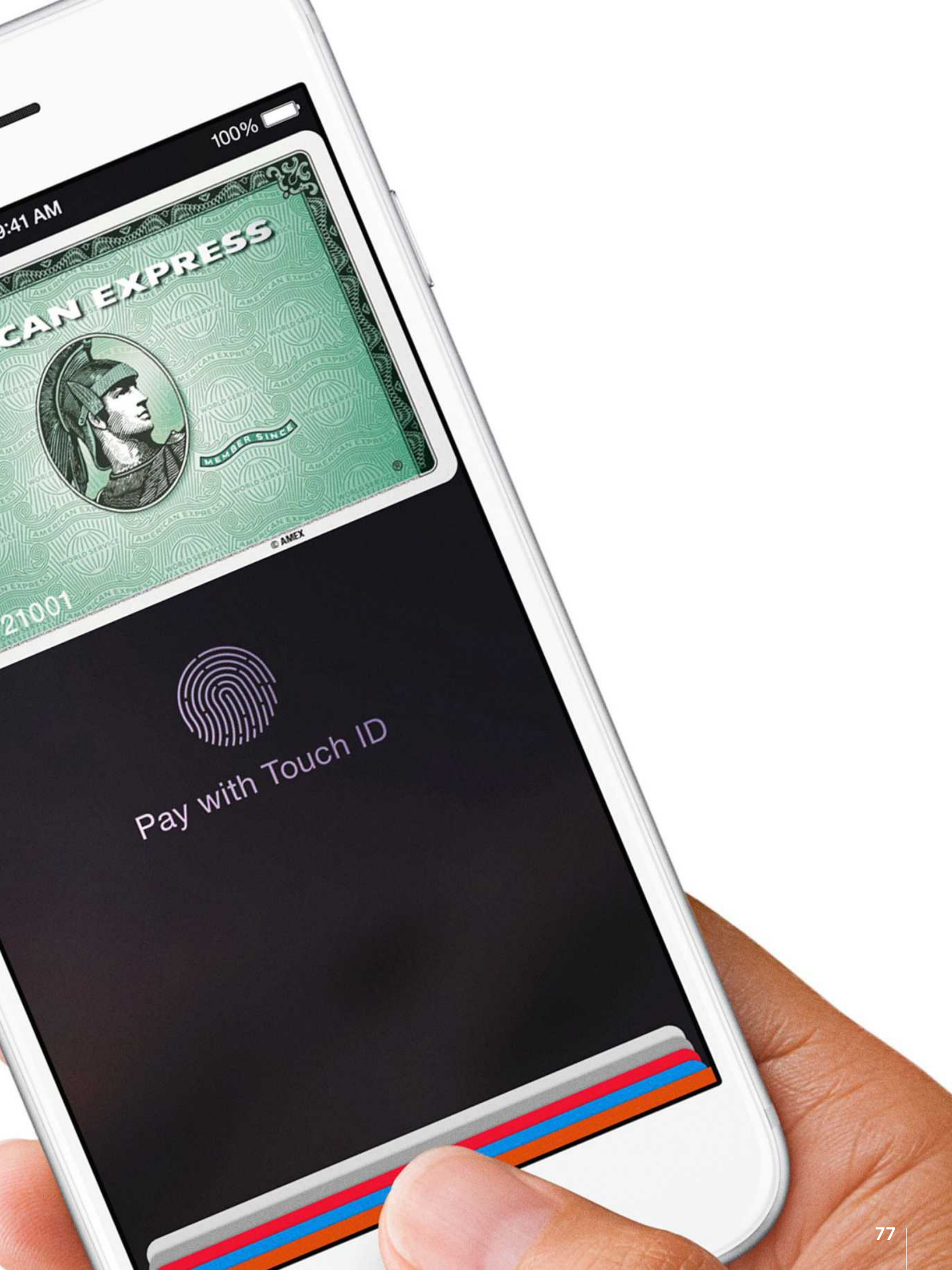
Cape Productions' drones are equipped with obstacle avoidance software that keeps them from hitting chair lifts, overhead power lines and trees. Operators also would not be allowed to fly them faster than 25 mph.

But that's the small print for customers who are primarily interested in the final product - and the chance at epic bragging rights.

"I have one picture of myself skiing. I would love that," said Meg Nyberg, a 35-year-old Denver resident who spends her free time Telemark skiing. "On a powder day, I would pay $100 for that."

# APPLE PAY EXPANDS AS IT VIES FOR BROADER ACCEPTANCE




100%
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CAN EXPRESS
MEMBER SINCE
© AMEX
21001
Pay with Touch ID

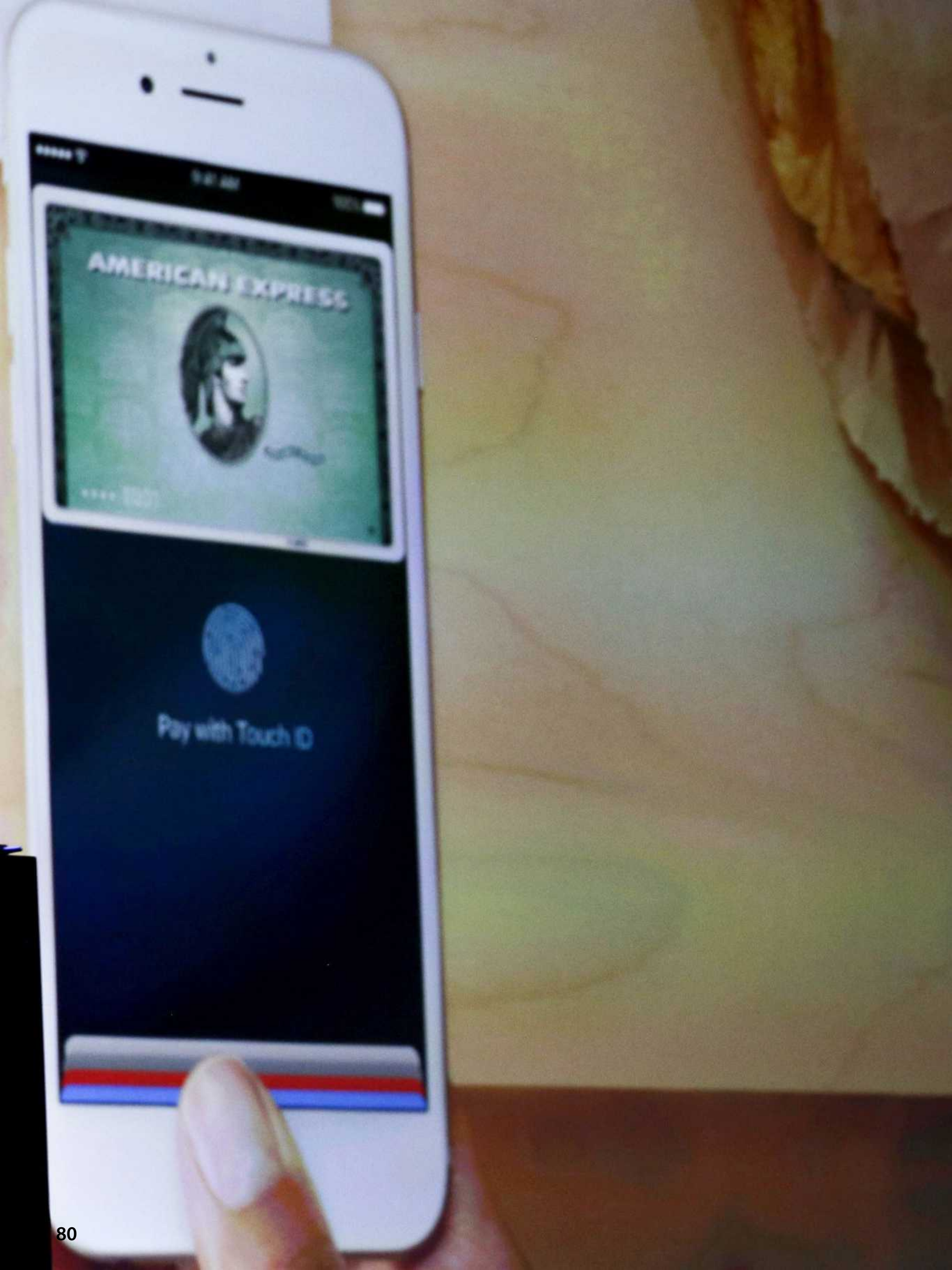
Apple's year-old mobile-payments service is expanding to more countries, banks and merchants, as it faces growing competition and some challenges before it becomes as commonplace as plastic cards.

Apple Pay is available in Canada starting Tuesday and in Australia on Thursday. Those are two countries where "tap" payments - tapping a phone or chip-embedded card to the store's payment machine - are already more common than in the U.S. In those countries, however, Apple Pay is limited initially to American Express cards.

In the U.S., where Apple Pay started in October 2014, the service will expand Tuesday to more than 100 additional card issuers - mostly smaller banks and credit unions. Apple Pay already accepts Visa, MasterCard, American Express and Discover cards from most major banks. In the U.K., Tesco and TSB banks will join Apple Pay on Tuesday.

The developments come a few months after Google launched its own tap-and-pay service, Android Pay, while Samsung started Samsung Pay. Both are for Android phones, while Apple Pay requires iPhones.




AMERICAN EXPRESS
Pay with Touch ID



## GRADUAL EXPANSION

Jennifer Bailey, Apple's vice president for Apple Pay, said the company is starting with American Express in Canada and Australia because it's both the card issuer and the payment-network operator, so coordination is easier. With Visa and MasterCard, individual banks issue the cards, and each bank has its own way of verifying a customer's identity when setting up Apple Pay, for instance.

Meanwhile, Apple is working with makers of various payment machines to bring tapping capabilities to additional merchants, small and large. When Apple Pay launched, the U.S. had 200,000 tap-capable machines. That's expected to surpass 1.5 million this year. The growth includes about 100,000 small to medium-sized merchants each month, Apple said.

Apple said Tuesday that Cinnabon will add Apple Pay to all its U.S. locations next year, while Domino's company-owned pizza stores will get it by year's end. Earlier, Apple said Starbucks will conduct a pilot this year, with a broader rollout next year, while KFC will launch next spring.

Despite the momentum, several million more U.S. retailers still have older machines that lack the right technology.

## PAYING AT RESTAURANTS

Even if a merchant has the equipment, it's often located behind a counter, out of arm's reach. At sit-down restaurants, it's not practical for people to have to get up to make a tap at a counter. Most people prefer leaving a card with a waiter, at least in the U.S. (In Canada and many European countries, it's common for staff to bring a portable card machine to your table.)

Addressing that will require a combination of approaches, Bailey said. She said Chili's is installing tablets at tables so people can order and pay right there, starting in the spring. The restaurant-reservation service OpenTable already lets diners use its app to pay at some restaurants. Other U.S. restaurants, she said, will embrace portable card machines.

"You'll see restaurants really look to innovate," Bailey said, adding that restaurants can squeeze in more customers with faster payments, and customers are happier if they don't have to wait for the check.



## THE U.S. IS BEHIND

Americans are used to plastic cards, and many people aren't drawn to the increased security that these services provide because banks typically waive liability for fraud.

But the dynamics could change with the growing use of plastic cards embedded with security chips. Chip transactions take longer than a traditional magnetic swipe, making the convenience of tapping seem more attractive.

Because other countries have had chip transactions longer, they are further along in accepting tap payments, Bailey said. She expects U.S. shoppers will come to accept tap payments, too, now that chip cards are becoming standard.



# iTunes

## Review



# *Movies & TV Shows*

# Mission: Impossible - Rogue Nation




iTunes **Preview**

by Christopher McQuarrie
Genre: Action & Adventure
Released: 2015
Price: $19.99

★★★★★
176 Ratings

*Trailer*

Rotten **Tomatoes**
CERTIFIED FRESH 92%

The fifth film in the Mission: Impossible series may be the most tense and action-packed yet, as Ethan and the team take on their most impossible mission yet: destroying a near-mythical team of assassins who threaten to eradicate the IMF.

## FIVE FACTS:

**1.** Mission: Impossible is the 17th highest-grossing movie series of all time.

**2.** The sixth movie of the series is already in development as of May 2015.

**3.** Tom Cruise and Simon Pegg performed all their own driving stunts in this movie.

**4.** Tom Cruise was injured six times during the making of the movie.

**5.** Simon Pegg has also starred in range of popular comedy movies including Shaun of the Dead (2004), Paul (2011), and Hot Fuzz (2007), as well as starring in previous Mission: Impossible movies.

See more in iTunes



*Other video: interview with main actor Tom Cruise*



# Roger Waters the Wall

As one of the co-founders of Pink Floyd, it's no doubt that this movie will be as out-of-this-world as Roger Water's contributions to the music world. Originally a stage show that breaks the boundaries of live music, the show is now available on feature film for the first time.

## FIVE FACTS:

**1.** The tour was the first time the Pink Floyd album The Wall has been performed in its entirety by the band or any of its former members since 1990.

**2.** After several years of touring worldwide, it was suggested that a show in Paris in 2013 was the final ever show.

**3.** The tour once overtook Madonna as being the highest-grossing tour for a solo musician.

**4.** Often considered to be one of the most ambitious and complex rock shows ever staged.

**5.** The show is a reimagining of Pink Floyd's 1980-1981 tour.



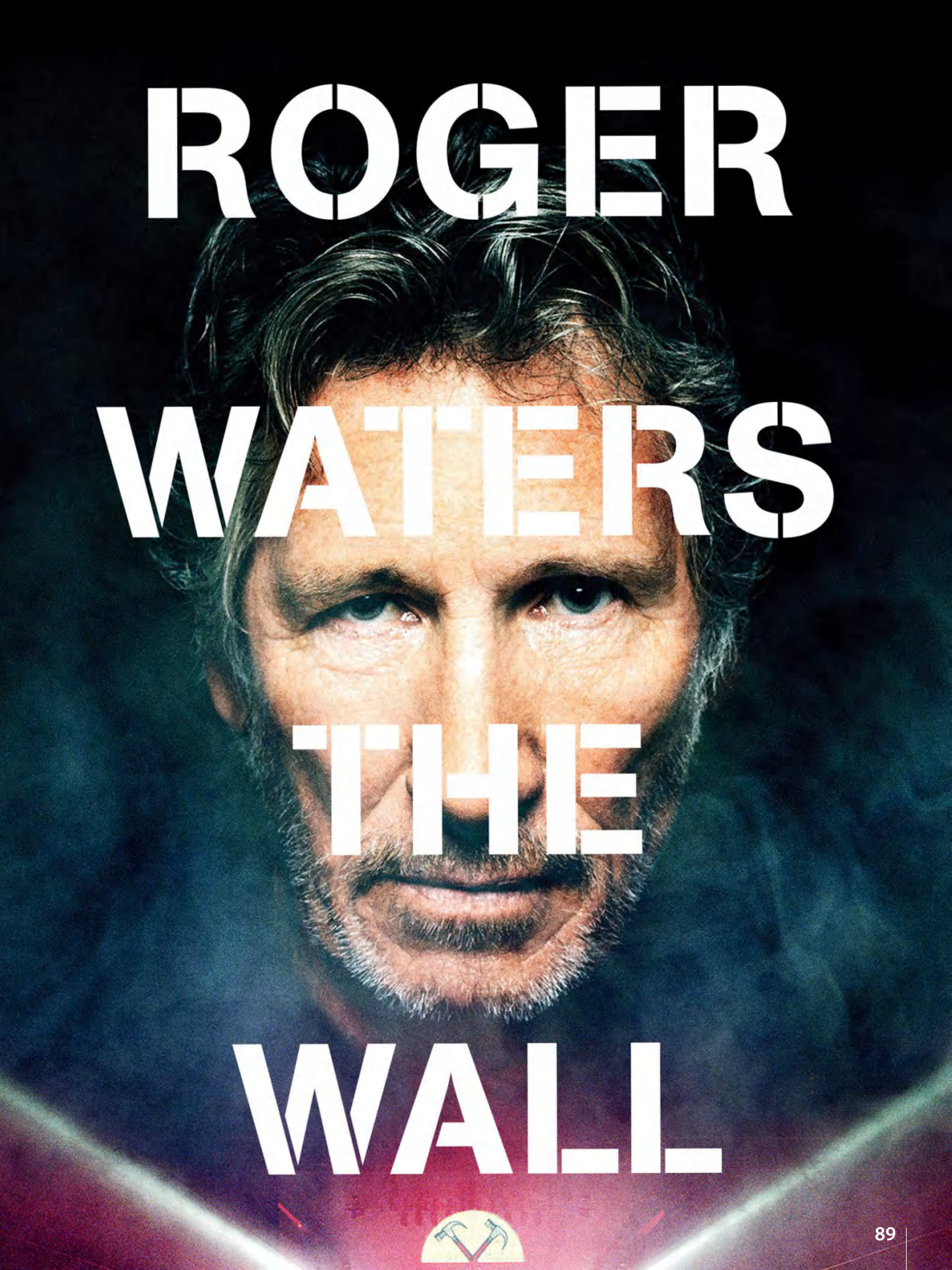

iTunes Preview

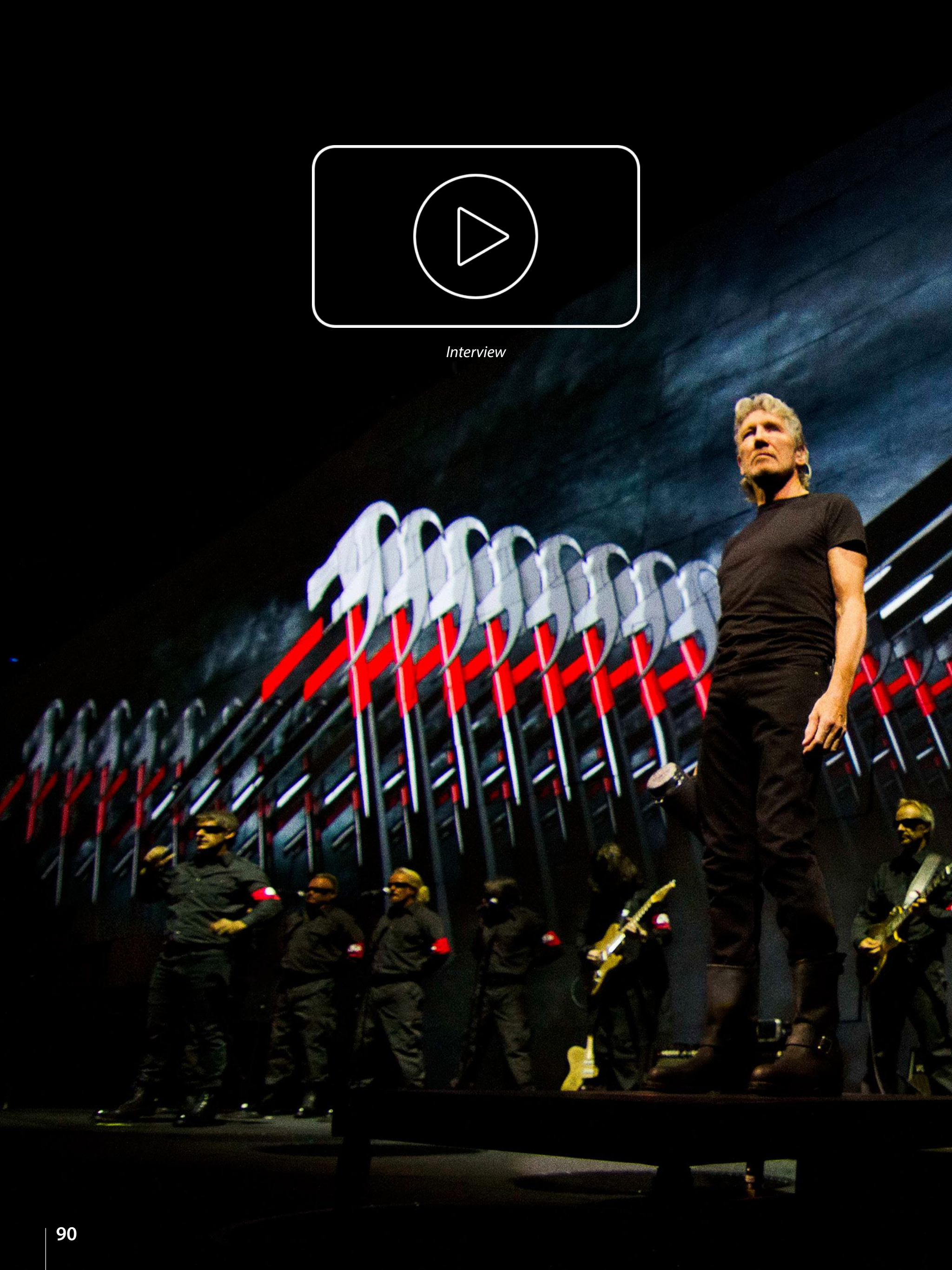
by Sean Evans & Roger Waters
Genre: Documentary
Released: 2015
Price: $19.99

★★★★★
15 Ratings

*Trailer*

Rotten **Tomatoes**
CERTIFIED FRESH 95%


ROGER
WATERS
THE
WALL



*Interview*

# iTunes

**Review**



# *Music*




iTunes **Preview**

Genre: Pop
Released: Nov 13, 2015
17 Songs
Price: $14.99

★★★★★
14224 Ratings

*Perfect*

# Made In The A.M. (Deluxe Edition)

## One Direction

Their final album before an assumed hiatus; "Made In The A.M." is one of the world's biggest boyband's most-loved albums yet. With 4 extra bonus tracks, this is a must-have for any Directioners out there.

### FIVE FACTS:

**1.** The band are set to go on hiatus in March of 2016 to pursue solo careers.

**2.** They became the first band in the U.S. Billboard 200 history to have their first four albums debut at number 1.

**3.** Originally, the 5 members auditioned as solo acts on the 2010 edition of The X Factor. They were then merged into a group. Despite gaining popularity in the UK throughout the series, they didn't win the show.

**4.** Harry Styles won the "Villain of the Year" award at the 2014 NME awards, which prompted an outrage from fans of the band.

5. Their "Where We Are" tour was the highest grossing concert tour of 2014, and the highest-grossing tour ever by a vocal group.

See more in iTunes





*Interview with the band*

# Paper Mâché Dream Balloon

## King Gizzard and the Lizard Wizard

Paper Mâché Dream Balloon is the seventh album in three years from the quirky Australian seven-piece.  Although they're primarily a psych band; hints of jazz and folk can be found in this album. An unusual and dreamlike album with some rather bizarre lyrics; don't knock it before you try it.

### FIVE FACTS:

**1.** The band are signed to Heavenly Recordings in the UK. This label currently plays home to popular alternative acts such as The Wytches and Temples, but has took well-known acts such as Manic Street Preachers and Doves under its wing in the past.

**2.** King Gizzard are known for their unpredictable live performances, which often stretch out or seem to blend into an hour-long jamming session.

**3.** The band have released 7 albums in the last three years, with two each year from 2013.

**4.** All of their albums are also released with the band's own label, Flightless. It is unknown if anybody else is signed to this label.

**5.** The band have also worked with Shock Records, which has also signed legendary alternative artists such as Marilyn Manson, Interpol, and The Prodigy.



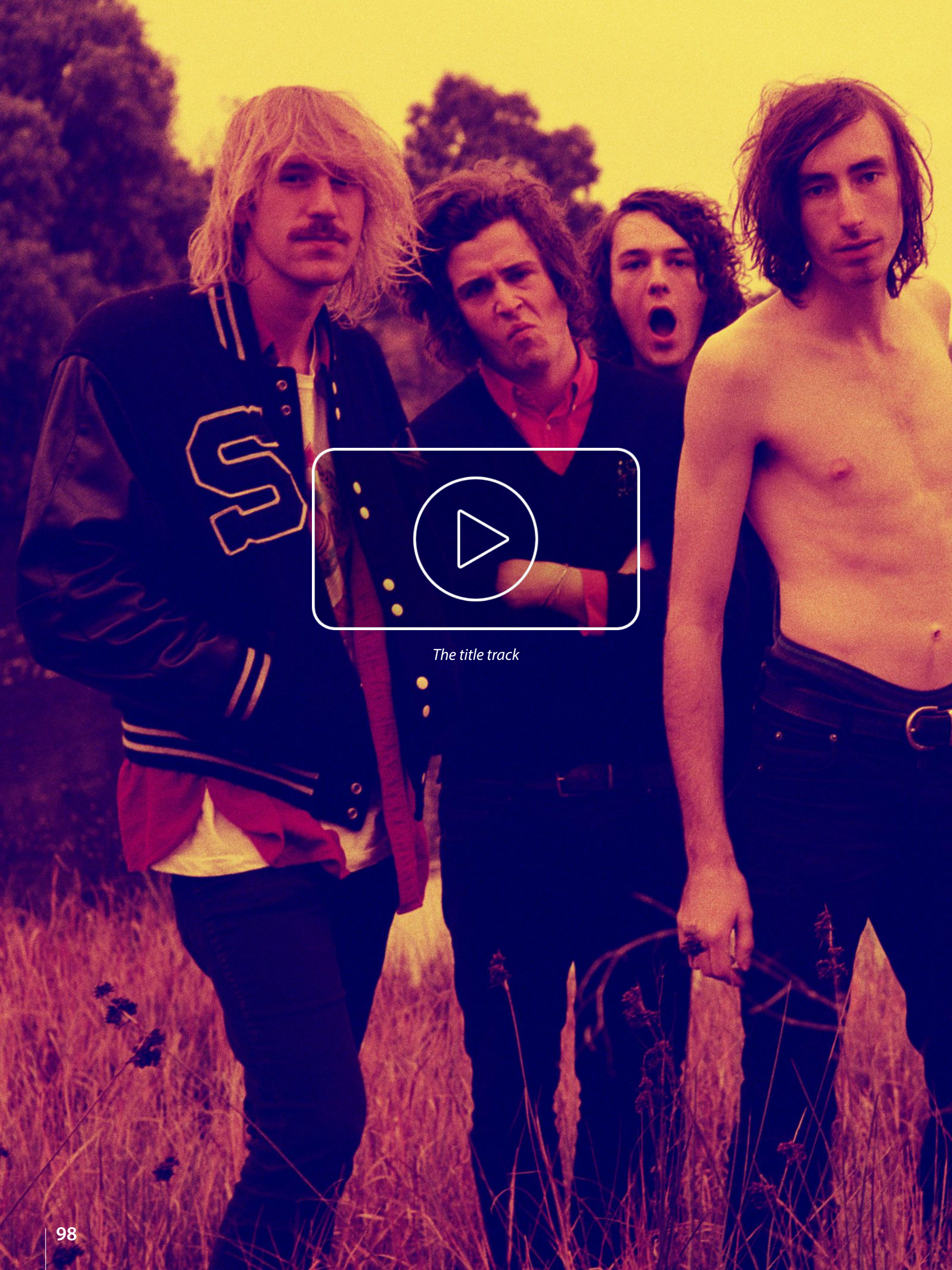

iTunes Preview

Genre: Alternative
Released: Nov 13, 2015
12 Songs
Price: $9.99

★★★★★
9 Ratings



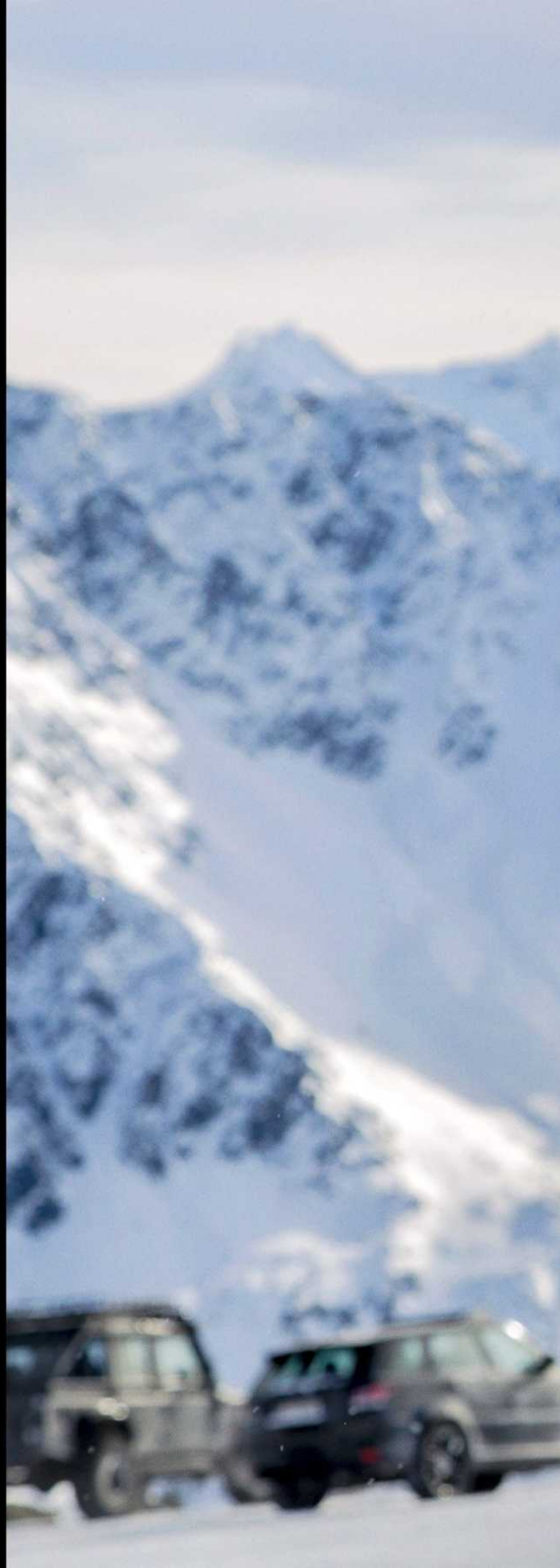
*A performance from the band on KEXP*



*The title track*



# ‘SPECTRE’ STAYS ON TOP WITH $35.4M, ‘PEANUTS’ WITH $24.2M



The box-office duo of James Bond and Charlie Brown again dominated North American movie theaters over the weekend, while Angelina Jolie Pitt’s “By the Sea” made barely a ripple.

Sony’s “Spectre,” the 24th Bond installment and last week’s top film, took in $35.4 million in its second weekend, according to studio estimates Sunday. Daniel Craig’s fourth Bond film has most flexed its muscles abroad, where the majority of its $500 million-plus two-week global haul has come from. It got a boost, too, over the weekend in China, where it debuted with $48 million - the best opening for a 2-D, U.S. release in China, Sony said.



"The Peanuts Movie," from 20th Century Fox, remained in second place with $24.2 million. Both it and "Spectre" held strongly in their second weeks. "The Peanuts Movie" has grossed $82.5 million thus far.

Of the new releases, the Christmas comedy "Love the Coopers" - a family holiday gathering directed by Jessie Nelson and starring an ensemble including Diane Keaton and Alan Arkin - fared the best. It took in $8.4 million for CBS Films.

Warner Bros.' Chilean miner drama, "The 33," earned a middling $5.8 million. Though the 2010 disaster, which trapped 33 miners underground, riveted the world for 69 days, moviegoers showed little interest in a dramatized version of the event starring Antonio Banderas and Lou Diamond Phillips.

Universal Pictures considerably scaled back the release of the poorly reviewed "By the Sea," a marital drama starring Jolie Pitt and Brad Pitt. Playing in just 10 theaters, it made only $95,440. The third film directed by Jolie Pitt, who also wrote the script, "By the Sea" was made for a modest $10 million, so it won't hurt Universal much, but proved surprisingly unappealing to moviegoers despite starring two of Hollywood's biggest stars.

Expanding to 60 theaters, Tom McCarthy's acclaimed "Spotlight," about the Boston Globe investigation into Catholic priest sex abuse, pulled in $1.4 million with a per-screen average of $23,307 for Open Road Films. Tabbed as an Oscar favorite, the film, featuring an ensemble including Mark Ruffalo and Michael Keaton, is stoking interest with a gradual expansion.





Next weekend, Lionsgate's "The Hunger Games: Mockingjay Part 2," the final chapter in the young-adult saga, is sure to supplant Bond at the top of the box office.

Estimated ticket sales for Friday through Sunday at U.S. and Canadian theaters, according to Rentrak. Where available, the latest international numbers for Friday through Sunday are also included. Final domestic figures will be released Monday.

1. *"Spectre," $35.4 million.*

2. *"The Peanuts Movie," $24.2 million.*

3. *"Love the Coopers," $8.4 million.*

4. *"The Martian," $6.7 million.*

5. *"The 33," $5.8 million.*



2

5

6. *“Goosebumps,” $4.7 million.*

7. *“Bridge of Spies,” $4.3 million.*

8. *“Prem Ratan Dhan Payo,” $2.4 million.*

9. *“Hotel Transylvania 2,” $2.4 million.*

10. *“The Last Witch Hunter,” $1.5 million.*




8


10

# PANDORA STRIKES $75M RDIO DEAL, PROMISES NEW FEATURES

Pandora says it is acquiring technology and intellectual property from Rdio and will add new features to its Internet music streaming service by late next year.

The $75 million cash deal depends on Rdio seeking bankruptcy protection and gaining court approval for the deal. Rdio will wind down its service.

It would be the second big purchase by Pandora following its agreement to buy ticket seller Ticketfly last month for $450 million.

CEO Brian McAndrews said Monday that Pandora wants to redefine itself. It's primarily a U.S. service today known for its Internet radio. McAndrews wants to make it a global operation, add live events and give users more control.

Services like Spotify that let you request specific songs typically cost $10 a month.

Pandora radio is free, with ads. There's a $5-a-month option that strips out ads.

The deal also follows steps the company has taken to repair its frayed relationship with the music industry. Earlier this month, it reached a direct licensing deal for songwriting rights with Sony/ATV, the largest music publisher in the world. It settled a lawsuit for $90 million last month over songs from before 1972. It also suspended a plan to use a South Dakota radio station to lower its royalty payments, and agreed to retroactive pay to artists.

A more collaborative relationship with music makers puts it in a stronger position to expand, McAndrews said.

Pandora Media Inc. shares rose 3 cents to $13.45 in after-hours trading.

# GOOGLE ANTSY AS CALIFORNIA SLOW ON SELF-DRIVING CAR RULES





Hustling to bring cars that drive themselves to a road near you, Google finds itself somewhere that has frustrated many before: Waiting on the Department of Motor Vehicles.

The tech titan wants the freedom to give the public access to self-driving prototypes it has been testing on public roads since the summer. Before granting that permission, California regulators want Google to prove these cars of the future already drive as safely as people.

The Department of Motor Vehicles was supposed to write precedent-setting rules of the road by last Jan. 1. Nearly a year later, it is still struggling. After all, the agency is geared to administering driving tests and registering cars, not settling complicated questions the technology raises.

If the cars' advanced sensors and computing power can drive better than humans, do they need a steering wheel and pedals? Would a person even need to be inside? Google says no on both.

Regulators don't want to be blamed for unnecessarily stalling the arrival of robo-chauffeurs that can see farther, react faster and don't text, speed or fall asleep. They've implored Google and traditional automakers also developing the technology to share safety data, but companies in competition don't willingly reveal trade secrets.

Delay is not what Google had in mind when it pushed the 2012 legislation that made California one of the few states officially to authorize self-driving cars. Google's hope was to trade the independence to innovate without government oversight for regulatory certainty.

Three years later, both a company that abhors bureaucracy and a DMV struggling to write rules beyond its expertise are exasperated.

While self-driving cars are not close to being widely available, Google hinted in 2014 it wanted to get self-driving cars into public hands as early as 2016, probably starting with employees outside its small corps of self-driving car experts.

More recently, the project's leader, Chris Urmson, has said he doesn't want his eldest son to need a driver's license when he turns 16 in 3-1/2 years.

The bubble-shaped, two-seater prototype can't go anywhere, any time. It is limited to places Google has surveyed in far greater detail than its online maps. It can't handle fog or snow. Top speed: 25 mph.

Google's 73 cars are among the 98 test vehicles that California's DMV has given 10 companies permission to test publicly.

Though trained test drivers must sit behind the wheel, Google wants to remove the wheel and pedals for the general public. Its argument: It would be safer to take all control away than expect a person to snap safely to attention in an emergency.

As a famously data-driven company, Google proposes a composite sketch of evidence would show its cars are safe.

Each day, Google runs more than 3 million miles of computerized driving simulations. Engineers devise challenging real-world situations, then see how the cars respond. A "functional safety analysis" assesses what hardware or software might fail and how to minimize those risks.




513



Public road testing is the last piece. Google reports its cars have been involved in 17 collisions over 2.2 million miles of testing, nearly 1.3 million miles in self-driving mode. While that accident rate appears to be higher than for human drivers (though Google disputes that), accident summaries Google has published say its cars did not cause any accident.

Google has pressed California's DMV to publish regulations far harder than any other company.

"Our team is concerned about the delay," according to an invitation for a conference call last December that Google sent California officials, who released it under a public records act request.

Both before and after, Google representatives consistently checked with officials at the DMV and California State Transportation Agency about the status of rules. State officials have trooped from Sacramento to Silicon Valley for test rides, while Google's technical experts and lobbyists have headed to the capital for briefings or talks about regulation writing.

"The worst thing would be for California, sort of the birth state of this technology, to accidentally sort of shut things down," Sarah Hunter, public policy director at the experimental lab Google spun off to focus on ambitious projects such as self-driving cars and Internet-beaming balloons, said at a public presentation in September.

Shortly before, she jokingly jabbed a co-panelist who is the top DMV self-driving car official. Asked when self-driving technology would be "mainstream," Hunter responded: "Whenever the DMV pass their operational regulations."




Self-Driving Car



There's frustration to go around.

At the DMV, officials have pleaded for input from Google and traditional automakers to help set a clear, objective safety standard. At a meeting in May in Washington, traditional automakers joined Google in voicing concern that regulation - particularly in California - could stifle innovation.

There are no federal regulations on self-driving cars.

Still, California officials are "taking cues" from the National Highway Traffic Safety Administration, said the state's secretary of transportation, Brian Kelly. NHTSA's official position holds that any state which authorizes self-driving cars should require a licensed driver who can take control.

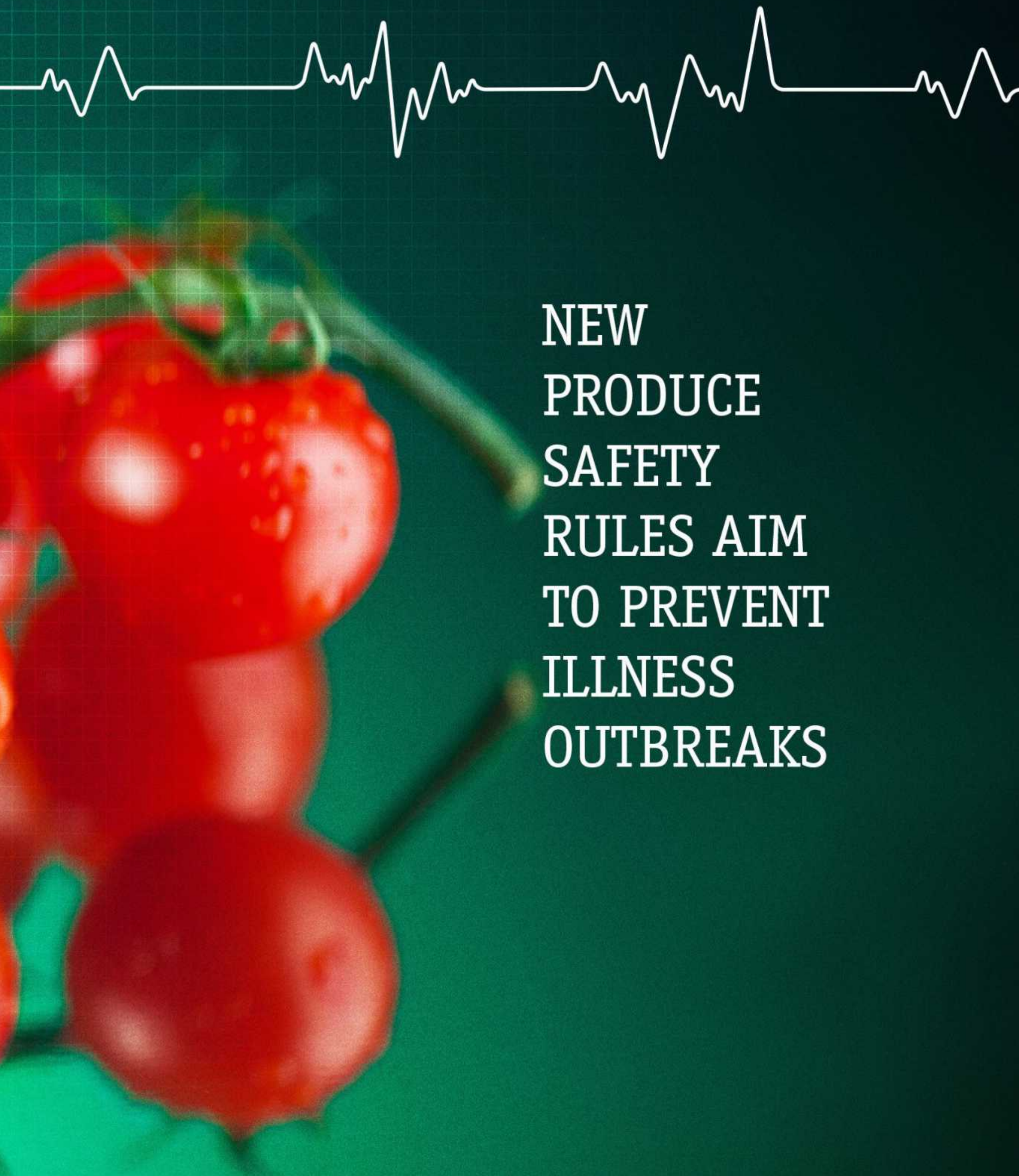
"My sense of it is we're getting a go-slow message from the federal government," Kelly said. He said that made sense for safety, but as a state famous for innovation, "we want to work through some of those sticky issues." He hopes the DMV will publish draft rules for public input by year's end.

In interviews, NHTSA Administrator Mark Rosekind and his boss, U.S. Transportation Secretary Anthony Foxx, said they support the technology for its life-saving potential but that the federal government's message to California was "go safe" in its regulation writing. Intriguing as that potential may be, California should not hastily write new regulations, despite "pressure" to do so, Rosekind wrote DMV Director Jean Shiomoto in April.

Over the summer, Google expanded its road testing from Silicon Valley to Texas, where state law would not obviously prohibit cars without pedals and a wheel. Some within California's DMV wondered whether Google's move was motivated by frustration with its home state.

# Health





# NEW PRODUCE SAFETY RULES AIM TO PREVENT ILLNESS OUTBREAKS











The Obama administration wants you to eat your fruits and vegetables. They also want the produce to be safe.

Long-awaited rules announced by the Food and Drug Administration Friday are designed to help prevent large-scale, deadly outbreaks of foodborne illness like those linked to fresh spinach, cantaloupes, cucumbers and other foods over the last decade. That means making sure workers are trained to wash their hands, irrigation water is monitored for harmful bacteria and animals do not leave droppings in fields.

The rules will phase in over the next several years and give the FDA sweeping new oversight over how food is grown on farms.

The majority of farmers and food manufacturers already follow good safety practices, but the rules are intended to give greater focus on prevention in a system that has been largely reactive after large outbreaks. The Centers for Disease Control and Prevention estimate that 48 million people - or 1 in 6 people in the United States - are sickened each year from foodborne diseases, and an estimated 3,000 people die.

The Obama administration has said they don't want people to eat fewer fruits and vegetables because of safety concerns.

"The rules will help better protect consumers from foodborne illness and strengthen their confidence that modern preventive practices are in place, no matter where in the world the food is produced," said Michael Taylor, the FDA deputy commissioner for foods.

The FDA also released rules Friday that will require importers to be more accountable

for the safety of food they bring into the U.S. market. The government estimates that about 52 percent of fresh fruit and 22 percent of fresh vegetables are imported.

Taylor said both rules could help prevent illnesses such as an ongoing outbreak of salmonella linked to cucumber imported from Mexico. In that outbreak, four people have died and more than 700 people have fallen ill.

There have been many other outbreaks linked to produce in recent years. In 2006, E. coli in fresh spinach was linked to several deaths, including a 2-year-old. The CDC later issued a report saying the cause may have been contaminated irrigation water. A 2011 outbreak of listeria linked to cantaloupes killed 33 people. After outbreaks of cyclospora illnesses linked to imported cilantro, American investigators found toilet paper and human feces in Mexican fields where cilantro is grown.

The agency has haggled over how to write the rules since Congress approved them in 2010, trying to find a balance between food safety and regulating farms with safety measures already in place.

The FDA originally proposed the produce rules in 2013, but rewrote them last year after some farmers said they would be too burdensome. The final rules, released under a court-ordered deadline after advocacy groups sued over the delays, largely follow that rewrite.

The regulations are tailored to cover foods and growing methods that pose the greatest risk. They target produce such as berries, melons, leafy greens and other items usually eaten raw and more prone to contamination. A farm that







produces green beans that will be cooked and canned, for example, would not be regulated. There are also exemptions for smaller farms.

The rules require farmers to test irrigation water quality, regularly train workers on the best health and hygiene practices and monitor wildlife that may intrude on growing fields, among other measures. There are also standards for keeping equipment and facilities clean.

Compared with the original 2013 proposal, the final rule requires less stringent standards for irrigation water quality and reduces the frequency of testing, in some cases. The organic industry had expressed concerns about the rules, especially because many organic farmers use raw manure as fertilizer and try to treat irrigation water with fewer chemicals.

Food industry groups and food safety advocates praised the rules. Sandra Eskin, director of food safety at the Pew Charitable Trusts, called the new rules a major public health victory. She said the focus now shifts to Congress, which will have to pay for the FDA's efforts.

"With the rules now being finalized, its crunch time for FDA to be ready to help food processors and growers meet the requirements and then to ensure they can enforce them," Eskin said.

FDA has asked for an extra $109 million to implement the entire food safety law, which also includes separate rules aimed at food manufacturing facilities released in September. Acting Commissioner Stephen Ostroff said in congressional testimony this fall that getting those dollars over the next budget year is crucial to ensure the rules work as intended.

The 2010 food safety law also authorized more inspections by the FDA and gave the agency additional powers to shut down facilities.



# CHARLIE SHEEN SAYS HE IS HIV-POSITIVE, BAD BOY DAYS ARE OVER

Charlie Sheen says his bad-boy days are over and, with Tuesday's declaration that he's HIV-positive, he aims to become an inspiration to others.

"My partying days are behind me," Sheen said in an "open letter" posted online. "My philanthropic days are ahead of me."

This manifesto was released as the former "Two and a Half Men" star appeared on NBC's "Today" to say he tested positive for the virus that causes AIDS about four years ago, but that, thanks to a rigorous drug regimen, he's healthy.

When asked by "Today" co-host Matt Lauer if he had transmitted the disease to others, Sheen declared, "Impossible. Impossible," and insisted he had informed every sexual partner of his condition beforehand. He told Lauer he has had unprotected sex with two partners, both of whom knew ahead of time, adding, with no clarification, "They were under the care of my doctor."

That claim was disputed by Bree Olson, who was living with Sheen in 2011 as one of his two "goddesses."

"He never said anything to me," Olson said on Howard Stern's SiriusXM radio show Tuesday. "I was his girlfriend. I lived with him."

She said she learned of Sheen's condition only in the past few days, prompting her to be tested. She told Stern the results were negative.

Asked by Lauer if he expected "a barrage of lawsuits" from past sexual partners alleging he infected them, he said wanly, "I'm sure that's next."

But in California, where Sheen resides, a person can be charged with a felony only if they are aware they are HIV-positive and engage in unprotected sex with another person with the specific intent of exposing them to the disease.

Sheen could potentially be sued in civil court by any partners he hasn't already settled with, with the amount of damages they would recoup determined by a judge or jury.

With his public pronouncements, Sheen said he hoped to reduce the stigma and shame still felt by others diagnosed with HIV, as well as by those reluctant to be tested in the first place.

"I have a responsibility now to better myself and to help a lot of other people," he said. "And hopefully with what we're doing today, others may come forward and say, 'Thanks, Charlie, for kicking the door open.'"

While some in the audience may have dismissed what Sheen said as the latest rantings of a reckless grandstander, others were calling him a champion.

"We don't always get to pick the perfect messenger. Today, he's a hero of mine," said Peter Staley, a long-time AIDS activist who is HIV-positive. Watching Sheen's interview, "I saw someone who has made a major leap forward and is on a new path that will hopefully end up helping a lot of people. The HIV stigma is as bad as ever."

And Gay Men's Health Crisis CEO Kelsey Louie said, "It takes incredible strength to disclose such private information to the world, and just like anyone else, Charlie Sheen deserves privacy and respect for sharing his status - no matter what his personal circumstances were."

Sheen said one reason for going public with his condition was to put a stop to shakedowns from prostitutes and others. He said one prostitute took a photo of the HIV-related drugs in his medicine cabinet and threatened to sell that photo to the tabloids.

He said he had paid "enough to bring it into the millions" - perhaps as much as $10 million - to buy their silence and now was seeking to "put a stop to this barrage of attacks and sub-truths."

"Are you still paying these people?" Lauer asked him.

"Not after today I'm not," said Sheen, who during his appearance appeared jumpy and spoke in stuttering bursts.

He did not address when, and by whom, he may have been infected.

In the U.S., AIDS is spread mainly through having sex or sharing injection-drug equipment with someone who has HIV. About 1.2 million people in the U.S. are estimated to have HIV, with many of them unaware.

For part of the interview, Sheen was joined by his physician, Dr. Robert Huizenga, who said the HIV level in Sheen's blood is "undetectable" and that he does not have AIDS.

"He is absolutely healthy," said Huizenga, adding that his real concern was for Sheen's "substance abuse and depression from the disease more than what the HIV virus could do to shorten his life, because it's not going to."

Sheen said in the past that he was "so depressed by the condition I was in that I was doing a lot of drugs, I was drinking way too much." He said he currently is not abusing drugs, though he allowed that he is "still drinking a little bit."

The disclosure was the latest chapter in Sheen's headline-seizing history. In recent years, drug and alcohol abuse led to his being kicked off CBS' "Two and a Half Men" in 2011 after a meltdown that included calling the show's producer "a contaminated little maggot."

His escapades also included the revelation that he spent more than $50,000 as a client of "Hollywood Madam" Heidi Fleiss' prostitution ring.

Sheen had become an instant film star in his early 20s with two dramas, "Platoon" (1986) and "Wall Street" (1987), and found success with

big-screen comedies as well, including "Major League" (1989) and "Hot Shots!" (1991).

In 2003, "Two and a Half Men" debuted on CBS and starred Sheen as womanizing bachelor Charlie Harper. It made Sheen one of TV's highest-paid actors (with a reported $1.8 million per episode) and at its peak was TV's most-watched sitcom.

In 2012, Sheen returned to TV in "Anger Management," an FX sitcom adapted from the movie of the same name.

Sheen has been married three times, the first time to model Donna Peele in the 1990s.

He and actress Denise Richards were married from 2002 to 2006 and have two daughters. Sheen and real estate investor Brooke Mueller wed in 2008 and divorced in 2011; they have two sons.

"Brooke can confirm that she and the boys are not HIV positive," Steve Honig, a spokesperson for Mueller, said in an email.

The Centers for Disease Control and Prevention recommends that everyone between the ages of 13 and 64 have an HIV test at least once as part of routine health care, and that people seek out testing if they have such risk factors as having had sex with someone whose HIV status they didn't know.

Latex condoms are the best way to prevent sexual transmission.


YouTube



# YOUTUBE MUSIC IS A GREAT MUSIC-VIDEO APP _ IF YOU PAY UP

If you were going to reinvent MTV for a mobile generation, you'd probably come up with something like YouTube Music. It's a video-first music service that also plays in the background like you'd expect a music app to do. That sets it apart from other music apps out there, many of which give you a choice of videos or songs, but not interchangeably.

But while YouTube Music offers a lot of interesting features, most of them require a subscription to the new YouTube Red service, which will set you back $10 a month - $13 if you sign up through YouTube's iPhone app. Without Red, YouTube Music will play ads similar to what you see on YouTube proper, and several other functions won't work at all. YouTube is offering new users a 14-day free trial to Red, but to continue commercial free, you'll need to pony up.


Music
YouTube



YouTube Music is first and foremost a music-video app, albeit one that doesn't forget that most people will be using it on their phones. For those times you'd rather just listen instead of watching, you can hit a toggle that switches the app to audio-only mode, which turns off the video playback and swaps in a still image. You can even turn off the screen and keep listening while you do something else.

But here's the first gotcha: Audio-only mode only works for paid subscribers. I also found the audio-only toggle worked far better on a Samsung Galaxy Note 4 than on an iPhone 5, where it introduced a jarring pause.

You can similarly shrink the video to a little strip at the bottom of the app, which keeps it playing in a cropped format while you look for the next video. The app will even keep playing if you switch to other tasks, like checking email - although again only if you've paid up for Red.

There are some curious omissions. For instance, there's no easy way to create a playlist to queue up a bunch of videos in a row. The app does offer "song stations," which queue up videos from artists related to the one you're on. You can toggle the range of the resulting mix with options like "less variety," ''more variety" or "balanced." I started a station starting with Passenger's "Let Her Go" and so far I'm pretty happy with the "balanced" playlist it created, which included "Counting Stars" from OneRepublic and "Burn" by Ellie Goulding.

You can also play all of the videos you've thumbs-upped, which turns that grouping into a crude sort of playlist.





YouTube Music is far less cluttered than competing services like Apple Music, which has more lists and tabs than you'll know what to do with. YouTube Music keeps the tabs to three - home, hot (trending videos), and thumbs up (your favorites).

Home offers recommended videos, and it's easy to find something playable. Your mileage may vary with the "hot" tab; it didn't do much for me, although I'm usually a bit out of sync with the mainstream.

Finally, there's one more fun feature, which is called "offline mixtape." It automatically saves 20 audio-only songs for you based on your tastes, for when you know you're going to get spotty reception. I wish it saved the videos instead of just the audio, but this will keep the tunes turning in a pinch. Alas, offline mixtapes are disabled in the ad-supported version of YouTube Music.

The app makes Google's $10-a-month music subscription a lot more attractive. Paying up not only unlocks features in YouTube Music itself, it also gets you ad-free playback on the main YouTube app, access to Google Play Music, and, down the road, some original material from YouTube stars.

# REVIEW: STELLAR CAST BOOSTS STONER COMEDY 'NIGHT BEFORE'

Boosted by its stellar cast and playful take on "A Christmas Carol,""The Night Before" is a coming-of-age stoner-buddy comedy laced with warm holiday cheer.

Make no mistake: it's still a silly romp thick with dope smoke and dumb jokes, but the performances are solid, and there's some surprising sentiment behind the wacky antics.

Joseph Gordon-Levitt, Seth Rogen and Anthony Mackie play best friends bidding farewell to their 10-year tradition of partying together on Christmas Eve. Ethan (Gordon-Levitt) is determined to make their last night epic, especially since Chris (Mackie) is on a hot streak in his football career and Isaac (Rogen) is expecting a baby.

Isaac's wife, Betsy (the hilarious and soon-to-be everywhere Jillian Bell), gives her husband a special gift in honor of his last Christmas Eve with his pals: a box filled with "every single drug in the whole world."

Well, you can imagine how things go from there. Isaac dips into the stash as soon as they leave the house. Rogen is predictably over the top as he samples each substance, falling deeper and deeper into a delusional haze. This presents ample opportunity for gross-out moments, like when he barfs in church or lets his nose bleed into a woman's martini.

Meanwhile, Ethan surprises his friends with tickets to the hottest party in town, the one they've dreamed of getting into since their holiday tradition began.

But first, Chris needs to pick up some weed. (Somehow, Betsy left that out of the box.)

This sets the trio on their adventure, bringing them in contact with the mysterious Mr. Green (a brilliant Michael Shannon) for the first of several meetings. He introduces Chris to "the weed of Christmas present." Later in the film, the weed of Christmas past and future is smoked. (Poor Dickens.)

Along the way, the guys meet up with Ethan's ex-girlfriend (Lizzy Caplan) and her friend (Mindy Kaling), Chris' mom (Lorraine Toussaint), and Rebecca Grinch (Ilana Glazer). Each of these actresses' appearances is a little holiday treat that helps balance the dumb-guy debauchery. Miley Cyrus, James Franco and Tracy Morgan also make welcome, well-played cameos.

Isaac maintains a steady level of wasted-ness throughout the film as he frets about fatherhood. Rogen channels this with ease, and with considerably more maturity than in 2007's "Knocked Up."

Chris documents his every move for his social media profile, but secretly feels his popularity may be coming at too high a price. With his Juilliard pedigree and dramatic gravitas, Mackie has poise and charisma to spare, so it's oddly

comic to hear him utter such lines as, "I just fame-(expletive) that hipster chick!"

Gordon-Levitt brings his usual charm and accessibility to Ethan, who faces the hardest holiday challenge: What will Christmas Eve be like without his buddies? They've moved on with their lives; why hasn't he?

Written and directed by Jonathan Levine ("50/50," "The Wackness"), "The Night Before" is a millennial coming-of-age story cloaked in a cloud of smoke. It's a druggie comedy, to be sure, but a sweetness about vulnerability, honesty, friends and family cuts through the haze.

Things may be tied up a little too neatly, but it is Christmas, after all.

"The Night Before," a Columbia Pictures release, is rated R by the Motion Picture Association of America for "drug use and language throughout, some strong sexual content and graphic nudity." Running time: 101 minutes. Two and a half stars out of four.

MPAA Definition of R: Restricted. Under 17 requires accompanying parent or adult guardian.

# GIFT GUIDE: 6 WAYS TO GET STREAMING VIDEO TO YOUR BIG SCREEN

Watching video on a phone or personal computer can sometimes feel less than awesome - not to mention kind of lonely, given the limited viewing angle of the small screen.

There are plenty of ways to get streaming video onto your big living-room screen. Internet-connected "smart" TVs and gaming consoles such as the Xbox or PlayStation can do the trick. But stand-alone devices tend to offer more features and more video services to choose from.

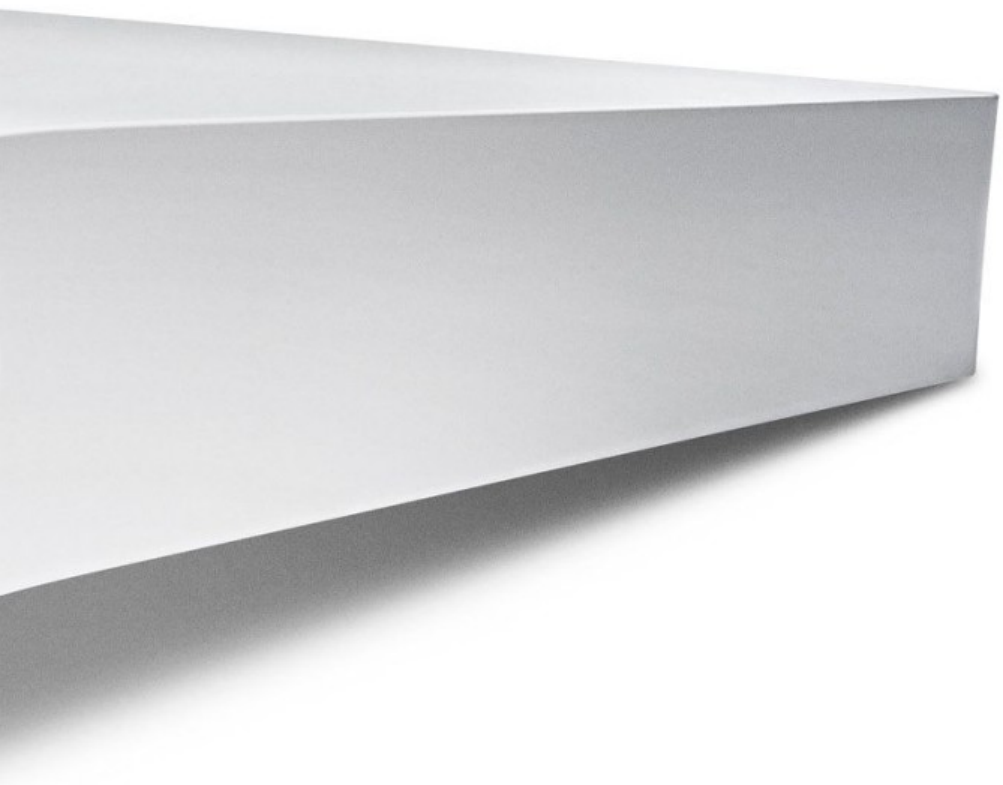
These six leading devices all stream Netflix and YouTube, and most also handle Hulu, PBS and several others. Only Apple TV has iTunes, while only Roku has both Amazon and Google Play. Whichever device you choose, you'll still need subscriptions to watch most of the 12 services we checked.











**TIVO BOLT** (starts at $300, plus $15 a month for service after the first year)

The TiVo is first and foremost a digital video recorder, offering many features that cable-company DVRs can't match.

TiVo recordings have many advantages over streaming services such as Hulu. One tap of the remote skips over the entire commercial break for many prime-time shows. Hulu won't let you skip commercials at all unless you pay more. TiVo can also play back shows 30 percent faster using its "QuickMode." Use both, and an hour-long show takes less than 35 minutes.

As a streaming device, though, TiVo is more limited. It offers only four of the 12 leading streaming services we checked - Netflix, Amazon, YouTube and Vudu. Hulu is coming soon. Apps for many specific channels, including HBO and Showtime, are unavailable, nor is baseball's MLB.TV. TiVo figures you can simply record those channels or use your cable company's on-demand service, but that doesn't help if you have only an antenna.

The Bolt offers 75 or 150 hours of recording. A 450-hour TiVo is available for $600, but it's an older model, without QuickMode or commercial-break skipping.

## **GOOGLE CHROMECAST** ($35)

The Chromecast is an odd hybrid - a gateway to relay streaming video from your laptop, phone or tablet to the TV. Choose a video source - say, the Netflix app or website - and make a few taps to "cast" it to the TV. The Chromecast then picks up the video stream directly.

Chromecast doesn't work with every video app, but has 10 of the 12 services we looked for; iTunes and Amazon are no-shows, at least from mobile devices. It has no remote; you control playback through your phone or tablet. The Chromecast is cheap, but it's not as versatile as a stand-alone device.

For music and podcasts, the $35 Chromecast Audio can "cast" to speakers.




chrome

## **NVIDIA SHIELD ANDROID TV** ($200)

The Shield's strength is as a video-game console. It's fast and powerful, and it has a good selection of converted PC games. The device also supports Nvidia's GeForce Now streaming-game subscription. Games run on distant servers, yet feel as though they are directly on the Shield.

The Shield uses Google's Android TV streaming service, which offers eight of our 12 streaming services. There's no Amazon, iTunes or Watch ESPN app. With Chromecast-like casting, you can get Vudu. You can get ESPN with a Sling TV subscription and app.

The Shield is expensive for a streaming TV device, but it's cheaper than a game console. It comes with a game controller.






amazon




**AMAZON FIRE TV** ($100)

The Fire TV is a great device for streaming video - especially video from Amazon. Video available as part of Amazon's Prime loyalty program integrates nicely. For other services, you must launch an app first. The Fire TV has nine of the 12 services checked; it's missing iTunes, Google Play and Vudu.

The Fire TV is cheap for a full-fledged streaming device. For an even cheaper option, Amazon's $40 Fire TV Stick has fewer features but runs the same services.

**ROKU 4** ($130)

Talk about choice. Roku has nearly 3,000 apps to choose from. If there's something you're looking for, however obscure, it's more likely to be on Roku than any other device. Of the dozen services we looked for, iTunes was the only one missing.

Roku joins TiVo, the Shield and Fire TV in supporting super-sharp video in an emerging format known as ultra-high definition, or 4K. Roku goes further in creating a special app to point you to what little 4K content is out there.

Another nice touch: A button on the Roku will make your remote beep if you lose it.

Roku also offers cheaper options with fewer features, all the way down to its $50 Streaming Stick.




OK
NETFLIX
amazon
sling
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A
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ROKU


tv




**APPLE TV** (starts at $149)

The app store on the new Apple TV has a good selection of video services and games. As with Fire TV and Roku, many of these are casual games, not the hardcore games common on the Shield. Apple is the only device with iTunes, although it currently lacks Google Play, Amazon and Vudu from the 12 services on our list.

Although Apple TV isn't the only gadget here to offer voice search, it does so without interrupting video playback. A slide-up box appears in response to commands for specific titles or actors, as well as general queries for weather, sports or stocks. (Fire TV and the Shield also offer informational voice searches, while Roku is limited to searches for shows and movies.)

Apple TV also offers a range of apps beyond video and games, including Airbnb and Zillow for housing listings and QVC and Gilt for shopping.

Apple still sells its older Apple TV model for $69. That model won't give you voice search or any apps beyond streaming media.

# MARK ZUCKERBERG ON PHILANTHROPY: MOVE SLOW AND BUILD THINGS

After making their fortunes from new software or social networks, some Silicon Valley entrepreneurs have vowed to apply their skills to "hacking" philanthropy and "disrupting" old models for funding charity.

Not so Facebook CEO and co-founder Mark Zuckerberg, who isn't afraid to take a more conventional approach to giving.

Local officials will gather in San Francisco this weekend to dedicate a new public hospital building, furnished and equipped in part by a $75 million gift from Zuckerberg and his wife Priscilla Chan, a pediatrician who did medical training at the old San Francisco General Hospital - now to be known as the Zuckerberg San Francisco General Hospital.

The 31-year-old social media mogul, worth an estimated $46 billion, made waves with his earlier forays in philanthropy - in particular, a controversial $100 million donation to public schools in Newark, New Jersey. This time, though, Zuckerberg and Chan made a comparatively traditional donation that funded the purchase of cutting-edge equipment for treating some of San Francisco's poorest residents. It's not exactly "Move fast and break things," Facebook's early slogan.

"I'd say that we're trying to help people" rather than disrupt philanthropy, Zuckerberg said in an exclusive interview with The Associated Press. "Just like anything else you want to do well, investing in social-good projects takes practice," he added. "This is the reason why we're starting when we're young."

The couple has transferred billions of dollars in Facebook stock to a nonprofit community

foundation that helps them dole out the funds. Zuckerberg said the gift to the San Francisco hospital, which serves many poor and minority patients, meets the couple's goals of "unlocking human potential" and "promoting equality."

But it's also clear that the donation stems partly from personal reasons, particularly for Chan, 30. The hospital "has been a critical part of my development as a person and as a physician," she said in an interview, explaining that she chose to do her residency there because it offers special training in treating underprivileged children and families.

A spokesman said the renovated hospital is San Francisco's only trauma center and the primary provider for residents who are uninsured and can't pay for medical treatment. It serves more than 100,000 patients a year. "This is the people's hospital," said Dr. Jim Marks, the hospital's chief of staff.

Officials said the couple's gift, the largest in the hospital's history, helped furnish and equip the hospital's new, nine-story main building, after construction was financed by an $887 million public bond measure. The old building, built in the early 1970s, will become an outpatient center.

Charity experts say Zuckerberg and Chan are among a new wave of billionaires, including tech figures like Napster co-founder Sean Parker

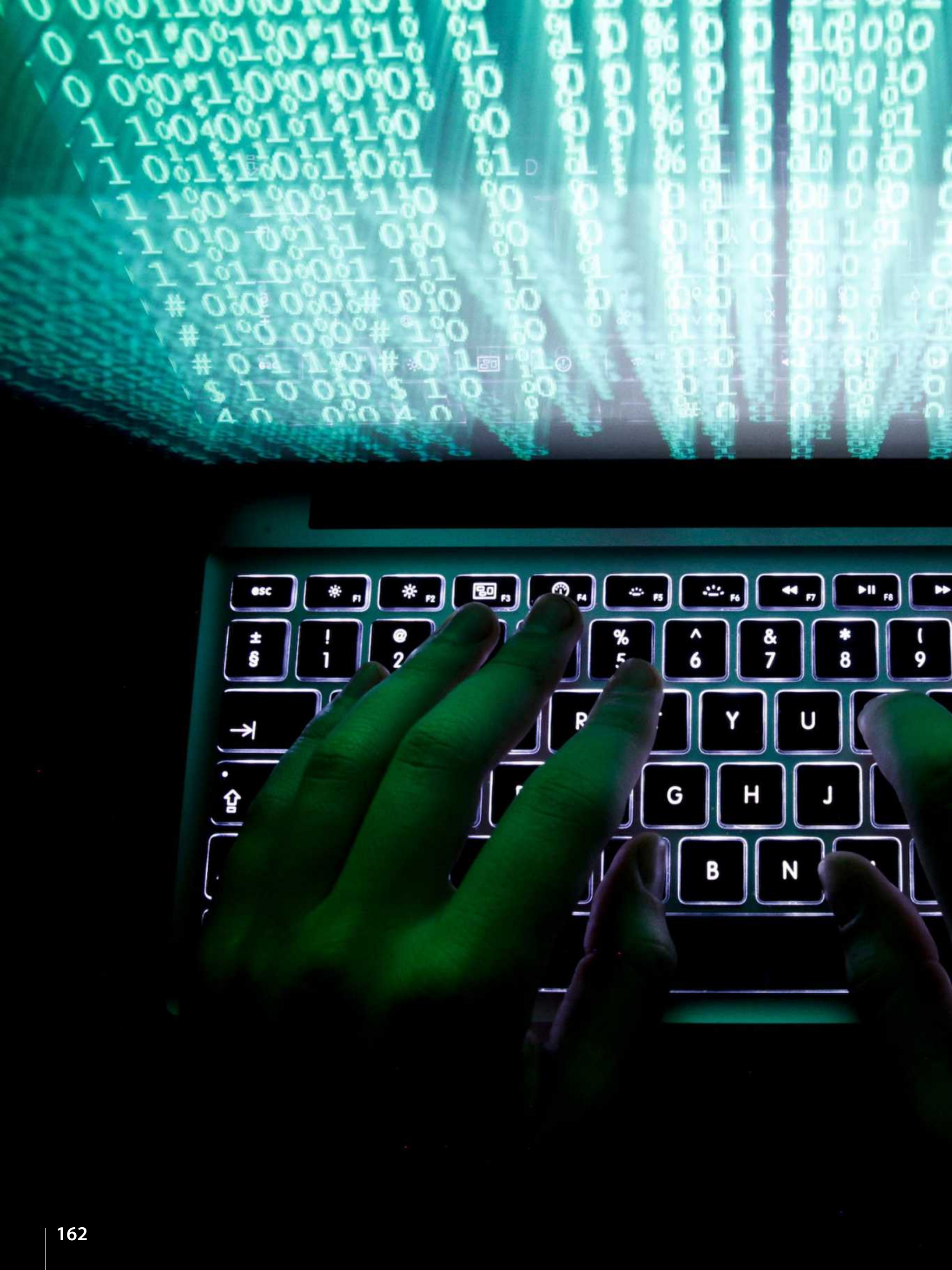
and Google's Sergey Brin, who started giving away large sums in their 20s and 30s, rather than waiting until they are older.

Critics of Zuckerberg's first big donation, at age 26, say too much of his gift to Newark schools went to high-priced consultants and outsiders who failed to improve local classrooms. Zuckerberg defends the effort, citing recent statistics that show improving graduation rates. But he said the experience taught him that "we need to engage with and learn from the community."

Last year, Zuckerberg and Chan announced they would give $120 million to public and charter schools closer to home in the San Francisco Bay Area. Instead of attempting to overhaul an entire school district, they are doling the money out to smaller programs that provide teacher training, classroom technology and attempts to develop more personalized instruction for individual students.

Separately, Chan is launching a private grade school in the low-income city of East Palo Alto. It will offer free tuition and work with a local clinic to address student health needs and related problems. Chan said she hopes to develop a model other schools can follow.

That's version 2.0 of their education efforts, Zuckerberg said. "We'll make mistakes again," he added, "and learn."





# US ADVISED TO EXAMINE 'HACK BACK' OPTIONS AGAINST CHINA

The United States remains ill-prepared to combat state-backed cyber intrusions from China and lawmakers should look at whether U.S.-based companies be allowed to 'hack back' to recover or wipe stolen data, a congressional advisory body said Tuesday.

That's the primary recommendation of this year's report by the U.S.-China Economic and Security Review Commission that examines the national security implications of the relationship between the two world powers.

The report says China's increasing use of cyber espionage has already cost U.S. companies tens of billions of dollars in lost sales and expenses in repairing the damage from hacking. It says in many cases, stolen trade secrets have been turned over to Chinese government-owned companies.

The commission, typically very critical of Beijing, is appointed by both parties in Congress but makes no bones about the "inadequate" U.S. response, saying China has also infiltrated a wide swath of U.S. government computer networks.

"The United States is ill-prepared to defend itself from cyber espionage when its adversary is determined, centrally coordinated, and technically sophisticated, as is the CCP and China's government," the report says, referring to the ruling Chinese Communist Party.

Cybersecurity has become an increasingly sore point in U.S.-China relations. It remains to be seen whether a September agreement between President Barack Obama and China's President Xi Jinping that neither government will support commercial cyber theft will lead to an easing in the tensions.

Among the most serious breaches in the past year in which China is suspected was against the Office of Personnel Management, revealed in April. Hackers gained access to the personal information of more than 22 million U.S. federal employees, retirees, contractors and others, and millions of sensitive and classified documents.

"The Chinese government appears to believe that it has more to gain than to lose from its cyber espionage and attack campaign. So far, it has acquired valuable technology, trade secrets, and intelligence. The costs imposed have been minimal compared to the perceived benefit. The campaign is likely to continue and may well escalate," says the report.

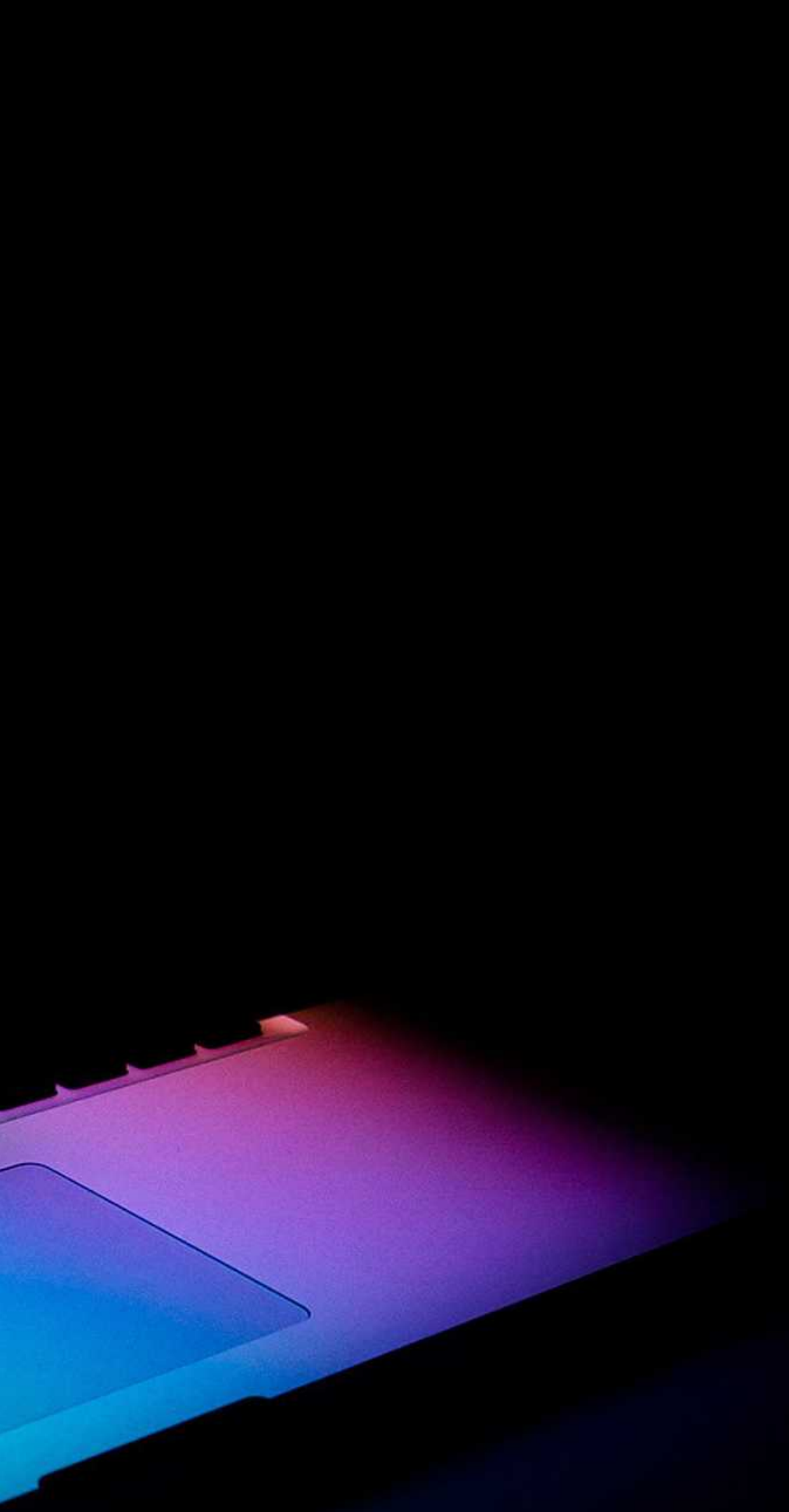
China describes itself as a victim of hacking and says that is combating cybercrimes. It denied involvement in the OPM hack.



Image: Kim Kyung Hoon







The commission's report says U.S. law does not allow retaliatory cyberattacks by private citizens and corporations, nor does it appear to allow 'hack backs' to recover, erase or alter stolen data in offending computer networks. It says international law has not kept up with developments in cyber warfare, and recommends Congress assess the coverage of U.S. law in this regard.

Congress should also study the feasibility of having a foreign intelligence cyber court to hear evidence from U.S. victims of cyberattacks and decide whether the U.S. government might hack back on a victim's behalf, the report says.

Richard Bejtlich, chief security strategist at FireEye, a U.S. network security company, said there wouldn't be much appetite in the private sector for this. He said it should be the U.S. government that conducts any counter intrusions, but publicly available information indicates that offensive cyber activities by the U.S. to date have been focused on intelligence targets and centers of state power rather than targeting groups that are hacking the private sector.

"We need to get our hackers to go after their hackers to put pressure on them and disrupt their operations," Bejtlich said. "We need to start with more government pressure, not put the private sector in that role."

The commission's report, which surveys a wide range of economic and security developments in China, also criticizes its censorship and restrictions on Internet content and the impact that has on U.S. businesses. The report accused China of a "government effort to wall off the fastest-growing market in the world for digital commerce."

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